



# GROWING

## SOUTH DAKOTA

A MAGAZINE BY SOUTH DAKOTA STATE UNIVERSITY / SUMMER 2019  
COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENTAL SCIENCES



*Supporting*  
STUDENT SUCCESS



## FROM THE DEAN JOHN KILLEFER

*"If your actions inspire others to dream more, learn more, do more, and become more, you are a leader." -- John Quincy Adams*

One of the true joys of my position as Dean of the College of Agriculture, Food and Environmental Sciences is learning about all of the wonderful and impactful things that our many students, staff, faculty and alumni do to make South Dakota State University such a great place. We are educating and developing the next generations of leaders that will help us to create the solutions to the many challenges that we face today and into the future. In this edition of *Growing South Dakota* you will learn about examples of how SDSU and the College of Agriculture, Food and Environmental Sciences are conducting research that is addressing current, real-world challenges that many of our producers face. For example, our Mesonet team has been advancing the applications of atmospheric monitoring to allow our producers to more safely and accurately apply treatments to their fields during the ever-changing conditions that we find on South Dakota farms and ranches.

We take the opportunity to highlight

career accomplishments of several of our faculty and alumni, and celebrate the outstanding leadership and competitiveness of our students. I am continually amazed by our accomplishments and the impacts that SDSU has on our state, nation and world. The College of Agriculture, Food and Environmental Sciences and SDSU are impacting our world in so many ways.

As you peruse these pages, you will find numerous stories of how our faculty and staff are creating impactful ways to enhance the learning opportunities of our students. Many of these high-impact learning opportunities would not be possible without the strong and robust support from our many donors and supporters. Support comes in many forms ranging from financial, to collaborations, to internships, to the many forms of mentoring that make our programs even more valuable. Our Local Foods Education Center is not only providing tremendous leadership and hands-on learning experiences to our students, it also benefits the Brookings community that surrounds our campus. Real-world trading experience that is provided through the POET Commodity Trading Fund allows our students to have the unique opportunity to practice and hone their financial skills using real money in real time. The POET Commodity Trading Fund is transforming theoretical learning into real-world experience, giving our students a significant advantage not only in their education but also in the job market.

Additionally, you will read about many examples of success from our students, where opportunities at SDSU have taken them and the doors that have been opened as a result of the unique opportunities that are offered here.

You will see examples of how our students and faculty are making both local and global impacts and how these stories of success have been made possible by the tremendous support from our alumni. The college is an ever-evolving place and we continue to adjust in order to remain relevant, support our stakeholders and help our students remain competitive in a changing world. Recently, we have created the Natural Resource Law Enforcement Club and the Professional Program in Veterinary Medicine that will lead to a Doctor of Veterinary Medicine (DVM) degree. These opportunities are examples of how we are enhancing and enriching learning experiences for our students and addressing needs of our state and nation. Through the continued support of our friends and partners, the College of Agriculture, Food and Environmental Sciences is an exciting place where we are growing the future leaders of our industries and organizations. We have so many stories of success that we are excited to share with you in this issue of *Growing South Dakota*. Enjoy...

Go Jacks!

*Contact John Killefer at  
John.Killefer@sdstate.edu*

## SERVING SOUTH DAKOTA

So far 2019 has brought significant challenges to our state's farming and ranching community. A long harsh winter followed by extreme flooding and moisture hasn't allowed for an easy planting season. The College of Agriculture, Food and Environmental Sciences is fully aware of and acknowledges these challenges and hardships in which our families and friends are enduring and wants to ensure everyone of our full support.

Our precision agriculture program is working to provide efficient means of production to help producers manage changing growing environments and soil conditions. SDSU Extension specialists are making great headway in addressing the mental health crisis that faces our nation and agricultural community by offering training and comfort to those it affects. The South Dakota Agricultural Experiment Station's research is made

available to the public to provide transparent and reliable education to everyone.

We are here to help and make our resources available and accessible to all. For more information, please visit [sdstate.edu/cafes](http://sdstate.edu/cafes) or [extension.sdstate.edu](http://extension.sdstate.edu).

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**ON THE COVER:** South Dakota State University and the University of Minnesota are finalizing an operating agreement for a Professional Program in Veterinary Medicine, which will allow students to complete the first two years of veterinary courses at South Dakota State and the final two years at UMN's College of Veterinary Medicine in St. Paul. Pictured: Christopher Chase, DVM and Professor of Veterinary and Biomedical Sciences, and Nicole Sterzinger, SDSU student.

## KARLA TRAUTMAN NAMED SDSU EXTENSION DIRECTOR

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**K**arla Trautman has been named the director of SDSU Extension at South Dakota State University. She has served as the interim director of SDSU Extension since 2016.

"I am very excited about Karla accepting the permanent role as director of SDSU Extension following her very successful service as the interim director. I look forward to her continued leadership and advancement of our extension activities in the state," said John Killefer, South Dakota Corn Endowed Dean of SDSU's College of Agriculture, Food and Environmental Sciences.

Over the course of her extension career, Trautman has served in a variety of roles with SDSU Extension. "I always knew extension work was my passion because I love the informal, educational framework of extension and the ability to work with families, individuals and communities," Trautman said.

She started with SDSU Extension in 1988 as a county extension educator for Deuel County, where she collaborated with the community to provide educational resources to families and individuals. In 2000, Trautman became a program leader for 4-H and home economics. In 2004, she also became a program leader for community development. In these roles, she provided organizational leadership to the program areas, as well as supervised

and mentored staff and volunteers. From 2006-2010, Trautman served as a leadership development specialist for SDSU Extension, developing curriculum and skill training related to leadership and human and social capital development.

Trautman assumed the role of SDSU Extension associate director in 2011, a position she held until being named the interim director in 2016. In her role as the interim director, Trautman says she has strived to empower staff to be successful while furthering the mission of extension, which is providing relevant, research-based information to the people of South Dakota.

"The premise of extension is lifelong learning and I'm proud of the work our professional staff accomplish each day in meeting this aspect of the extension mission," Trautman said.

Looking forward, she says the role of extension is more important now than ever before.

"As issues become increasingly complex, the role of the extension professional will need to adapt. While our mission to provide unbiased, research-based educational and technical expertise will continue, we know that the future will demand the extension professional to serve more predominately as a convener and



connector. Our extension professionals will seek to build the collaborative relationships and networks needed while demonstrating the collaborative problem-solving skills required in response to the demands of the societal challenges we face. Ultimately, our objective is to connect communities, families, youth, farmers, ranchers and agri-business people with the resources that can inform the important decisions they will make for the future," Trautman said.

Trautman holds a bachelor's degree in home economics extension and a master's degree in educational administration with an emphasis in adult and higher education, both from South Dakota State University.

She was awarded the SDSU Outstanding Faculty Award in 2007 and received the SDSU Woman of Distinction Award in 2013.

*Sydney Meyer*

# Celebration of Faculty Excellence

## DAVID CLAY NAMED DISTINGUISHED PROFESSOR



David Clay, a professor in the Department of Agronomy, Horticulture and Plant Science, was named a distinguished professor at the annual SDSU Celebration of Faculty Excellence held February 19.

Clay has been a professor of plant sciences since 2001. He has provided soils training to over 1,500 undergraduate students and 50 graduate students. His research, teaching and outreach focus on the adoption of technologies that

improve agricultural profitability and sustainability.

Clay has served as a Fellow of the American Society of

Agronomy since 2007. Currently he is serving as the first editor from South Dakota for the Agronomy Journal, which is published by the American Society of Agronomy. He is the editor of sixteen books, including Precision Agriculture Basics (2018), Practical Mathematics for Precision Farming (2017), IGROW Corn: Best Management Practices for Corn Production (2016), and Mathematics and Calculations for Agronomists and Soil Scientists (2011). He has also published over 265 referred papers in books and professional journals.

“This is the university’s ultimate academic recognition presented to those who have reached the pinnacle of their careers through distinguished performance and national or international recognition,” President Barry Dunn stated when he presented the award to Clay.

## JOE CASSADY AWARDED DR. HAROLD AND BARBARA BAILEY AWARD FOR EXCELLENCE IN ACADEMIC DEPARTMENT LEADERSHIP



Joe Cassady, head of the Animal Science Department, received the Dr. Harold and Barbara Bailey Award for Excellence in Academic Department Leadership. Bailey served SDSU as vice president for academic affairs for 24 years. From 1979 to 1985, he also directed programs to develop departmental leadership for the South Dakota and North Dakota Boards of Regents and the American Council on Education.

Since June 2013, Cassady has led the Department of Animal Science during a time of significant growth. Undergraduate enrollment increased by 14 percent, graduate enrollment doubled, a new Swine Education and Research Facility and Cow-Calf Education and Research Facility were added, and the Kohler/Gee Livestock Judging Team Endowment met its \$1 million goal. Cassady earned a bachelor’s degree in animal science from Iowa State University and earned master’s and doctoral degrees in animal science from the University of Nebraska. Before coming to SDSU, Cassady spent 12 years on the faculty of the Department of Animal Science at North Carolina State University, rising to the rank of professor.

## BOB THALER RECIPIENT OF F.O. BUTLER AWARD FOR EXCELLENCE IN EXTENSION/OUTREACH



Bob Thaler, professor in the Animal Science Department and SDSU Extension swine specialist, was awarded the F.O. Butler Award for Excellence in Extension/Outreach.

Thaler's SDSU Extension expertise and leadership in pig production is recognized locally, regionally, nationally and internationally. Thaler received the 2015 Governor's Ag Ambassador Award from former Governor Dennis Daugaard. He

was also awarded a Fulbright scholarship in 2018 to work at the Vietnam National University of Agriculture in Hanoi.

Thaler led the development of the SDSU Swine Education and Research Facility, which is the newest facility of its kind in the country. His efforts and reputation in the pig industry enabled SDSU to acquire the necessary funds from individuals, organizations and industry allies in not only South Dakota, but other states including Minnesota, Iowa and North Dakota. He continues to be involved in research, teaching and Extension activities at the facility.

Thaler serves as a mentor to junior faculty, especially those with Extension appointments. He helps guide them in finding effective methods and topics for Extension programming and applied research. Thaler credits the majority of his success to working in teams with great colleagues, as well as having the opportunity to work with some of the best producers, their children and allied industry partners in the world.

## LORA BERG RECEIVES F.O. BUTLER AWARD FOR EXCELLENCE IN COMMUNITY SERVICE



Lora Berg, director of marketing and communications for the College of Agriculture, Food and Environmental Sciences, received the F.O. Butler Award for Excellence in Community Service.

Berg serves as an advisor for the Agriculture Communicators of Tomorrow, Little International and Sigma Alpha professional sorority. Through her role as advisor

for several student organizations, Berg provides mentorship to around 250 students on a regular basis. She has the unique ability to relate to all ages and demographics. In her current position at SDSU, Lora utilizes her communication and photography skills to professionally distribute information related to the college. She also received the honor of Agribusiness Woman of the Year from the Ceres women's fraternity in 2015 and Gamma Sigma Delta Honorary Service Award in 2017.

## ANNE FENNELL HONORED WITH FACULTY ENGAGEMENT IN INTERNATIONAL RESEARCH AWARD



Anne Fennell, professor in the Department of Agronomy, Horticulture, and Plant Science, started her position at SDSU in 1992. She has been dedicated to developing international collaborations to expand the reputation of SDSU in the worldwide agricultural research community. She is an internationally recognized expert on the genetic and physiological aspects of

grapevine bud dormancy. Fennell has traveled to many countries to present her research findings. She is recognized as a top, leading international scientist for research on bud dormancy mechanisms and non-Vinifera grapevine species. Her research is an invaluable tool for facing the future's challenges in grapevine breeding programs.

In addition, Fennell has played an integral role in developing VitisNET, which has resulted in the creation of a system biology tool to rapidly analyze large data sets of gene products. Her success as a researcher is highlighted by several awards, millions of dollars in federal grant funding, and more than 50 impactful publications.

## SRINIVAS JANASWAMY RECOGNIZED WITH FACULTY ENGAGEMENT IN INTERNATIONAL RESEARCH AWARD



Srinivas Janaswamy, assistant professor in the Department of Dairy and Food Science, has established an impactful research program on functional biopolymers, specifically on the design and development of carriers of bioactive compounds. Janaswamy is well-known in the international scientific community due to his scientific contributions.

Focused on healthier diets, his research emphasis is on breads

made from orange-fleshed sweet potatoes to combat Vitamin A deficiency. This is an outcome of his collaboration with the

International Potato Center in Nairobi, Kenya. His research led to a new realization about reduced starch digestion of sweet potato breads, which has potential to aid individuals with glycemic issues. The collaboration is ongoing and Janaswamy is currently expanding research on sweet potato products that could address both Vitamin A deficiency and diabetic concerns.

Furthermore, his efforts extend to functional products from agriculture biomass to replace plastics. Janaswamy is also teaming with several Chinese and Indian universities, establishing strong research collaborations. These well-coordinated activities will further Janaswamy's research in fostering novel contributions to the field of food science and, in-turn, will be valuable to SDSU and his collaborators.

## SHARON CLAY NAMED OUTSTANDING RESEARCHER



Honored as the College of Agriculture, Food and Environmental Sciences Outstanding Researcher is Sharon Clay, distinguished professor in the Department of Agronomy, Horticulture and Plant Science. Clay has a specialization in weed science and has worked with crop and weed interactions, herbicide and soil interactions and environmental quality, mob grazing effects on weed management in

range, prescribed fire effects on weed management in range, biological weed control, organic weed control using cover crops and grit application, and saline/sodic soil remediation using different plants. She has secured over \$10 million as a principal investigator (PI) and close to \$50 million as a co-PI.

She is a high-impact scholar with over 160 referred publications. She was awarded Weed Science Paper of the Year from the Weed Science Society of America for papers in the journal *Weed Science* in 2007, 2012 and 2013. She has also

contributed to learning on a national scale through authorship of six books and more than 30 book chapters. The textbook, "Precision Farming – A Global Perspective," includes a chapter co-authored by Clay and colleagues from SDSU and is the leading class reference on precision agriculture today. Another book for which she is a co-author, "Mathematics and Calculations for Agronomists and Soil Scientists," is widely used in classrooms throughout the globe and is available in English, Spanish and Portuguese. She was also a co-author and contributor for the book, "Best Management Practices for Corn Production in South Dakota," which was designated a publication of excellence by the American Society of Agronomy.

Although she does not hold a formal appointment with SDSU Extension, Clay has long influenced extension programs through applied research and working with SDSU Extension colleagues to disseminate information.

Clay's leadership extends beyond the university, as she is the first woman president of the American Society of Agronomy. She also served on committees to help set up the precision agriculture and resistance management specialties for the Certified Crop Advisors program.



**From left:** Jeff Vander Schaaf, Megan Bodin, Mike Hansen, Brian Prchal, Jim Kellen, Ty Grone, Collin Endres, Tate Ketelhut, Luke Schemm, Logan Goslee, JJ Dooyema, Josh Irvin, Doug Prairie, Tia Muller, Joe DeBoer (alum), Levi Wicks.

## QUARTER SCALE TRACTOR TEAM NAMED *Reserve National Champions*

The South Dakota State University Quarter-Scale Tractor Team was named reserve champions at the 2019 American Society of Agricultural and Biological Engineers International Quarter-Scale Tractor Student Design Competition held May 30-June 2 in Peoria, Ill.

Students participating in the competition are challenged to harness the power and torque of a specified stock engine in order to maximize performance of a quarter-scale tractor during a series of performance challenges.

Each competing team must submit a written design report before the competition. The teams are given a 31-horsepower Briggs & Stratton engine and a set of Titan tires. The design of their tractor is up to them. A panel of industry experts judge the tractors on innovation, manufacturability, serviceability, safety, sound level and ergonomics. They are also judged on performance in three tractor pulls, a maneuverability course and a durability course.

Additionally, the teams present and sell their design in a formal presentation to industry experts playing the role of a corporate management team.

“Our tractor, UV-2431, was equipped with a mechanical driveline, independent

front suspension, electronic throttle and full-screen display. We wanted to design an easy-to-use tractor that would stand up to the roughest conditions,” said Tate Ketelhut, the team captain.

“This year’s tractor design was chosen with the customer in mind. We wanted to make an easily serviceable tractor that was simple to understand. We also used the proven design of previous team’s tractors and then improved those designs. In order to be successful from year to year, we have to keep improving and perfecting the tractor design. Our designs are also based on the direction industry is going, which is why we had a fully electronic throttle and digital display,” he continued.

Members of the SDSU A-Class team, which is made up of students who have previously been involved in quarter-scale competitions include: Jeremiah Dooyema, Luverne, Minn.; Logan Goslee, Glenville, Minn.; Ty Grone, Wayne, Neb.; Michael Hansen, Lakeville, Minn.; Joshua Irvin, Austin, Minn.; Tate Ketelhut, Miller, S.D.; Jesse Kramer, Ellsworth, Minn.; Tia Muller, Pipestone, Minn.; Brian Prchal, Montgomery, Minn.; Craig Santema, Milaca, Minn.; Luke Schemm, Pella, Iowa.

The X-Class team is designed for freshmen and sophomores to help them learn more about the competition. The

team uses the tractor built by the previous year’s A-Class team and makes modifications and improvements. The team members submit a basic written report describing their design changes, give a formal presentation at the event and participate in the tractor pull competition.

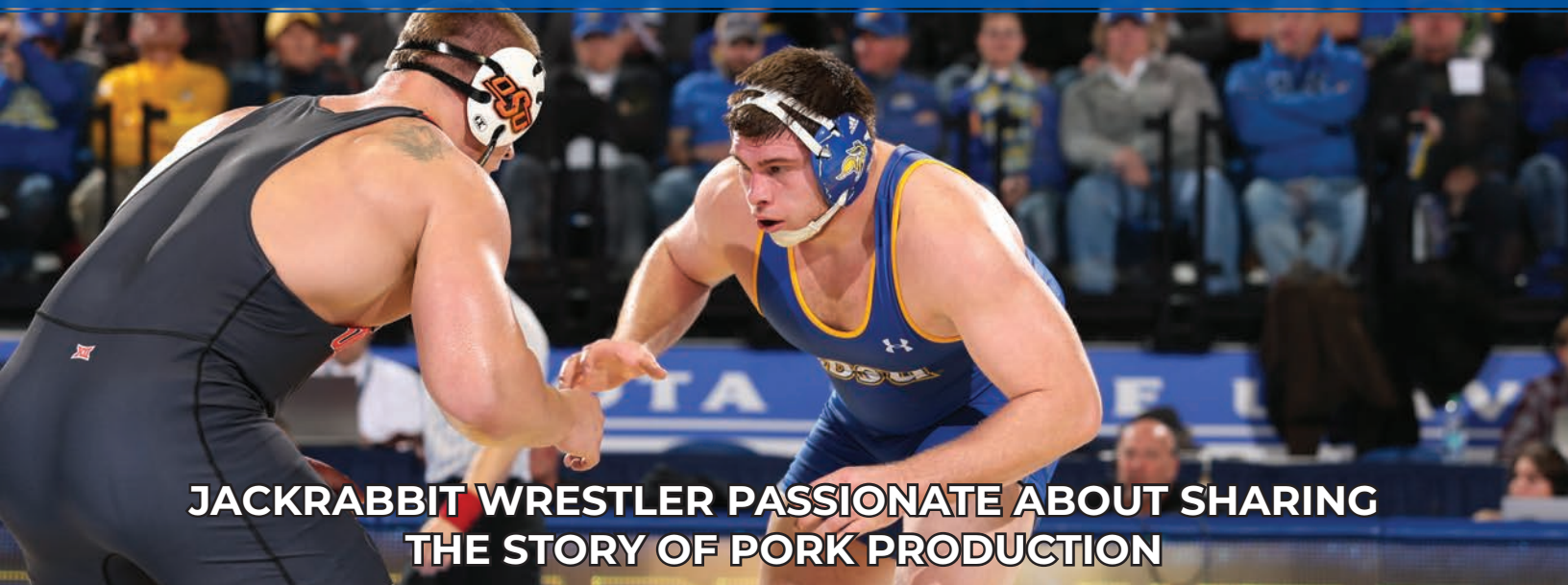
Members of the X-Class team include: Megan Bodin, Mankato, Minn.; Collin Endres, Alexandria, Minn.; James Kellen, Alton, Iowa; Levi Wicks, Austin, Minn.

“Our team focuses on being a top-three pulling tractor and then doing really well in all the other event categories,” said Douglas Prairie, adviser for the team and instructor in the Agricultural and Biosystems Engineering Department. “We know we aren’t going to place first in every category, but we focus on being extremely competitive in all aspects of the competition.”

The team begins designing the tractor the first week of the school year in the fall. The students met twice a week throughout the year and put in a combined 3,500 hours total to design and build the tractor.

*Sydney Meyer*





## JACKRABBIT WRESTLER PASSIONATE ABOUT SHARING THE STORY OF PORK PRODUCTION

When Jackrabbit wrestler Blake Wolters isn't on the wrestling mats, he can be found devoting his time to telling the story of pork production.

As a result of his involvement and dedication to the swine industry, Wolters was selected as one of 10 college students nationwide by the National Pork Producers Council to be a recipient of the 2019 Lois Britt Memorial Pork Industry Scholarship. The \$2,500 scholarship is sponsored by CME Group and the National Pork Industry Foundation.

### A dedicated advocate

The junior agricultural and biosystems engineering major started showing pigs in 4-H from an early age. By the time he was a junior in high school, he was breeding and selling his own show pigs.

"I really enjoy working with pigs and when they do well it is very rewarding," he shares. "It's definitely teamwork between you and the animal."

Wolters is dedicated to telling the story of raising pork. He has spent time volunteering in the Pipestone Discovery Barn at the Sioux Empire Fair, in the Oink Booth at the Minnesota State Fair and the South Dakota FFA Ag Adventure Center at the South Dakota State Fair. He also participated in Oink Outings with the Minnesota Pork Council.

"Consumer outreach is truly a priority for me because I love helping people understand pork production," Wolters said.

To further his knowledge and experience, Wolters took advantage of an

opportunity to work at the SDSU Swine Education and Research Facility during the summer.

"I had the opportunity to work with pigs from wean to finish, which is really unique to get experience in all aspects of production," Wolters shared. "In the future I would like to work in food processing, so it's really helpful to have an understanding of all the stages of production."

### An unexpected Jackrabbit wrestler

For Wolters, the opportunity to wrestle for SDSU came about unexpectedly. He was planning to play college football until an SDSU assistant wrestling coach called and talked with him about wrestling for SDSU.

"Sports were my life growing up and when I got the call about the opportunity to wrestle for SDSU, I knew it was a once-in-a-lifetime chance that I couldn't turn down," Wolters said. "I knew I wanted to pursue a degree in agriculture as well, so the strong agricultural programs offered at SDSU really finalized that decision for me."

Wolters explained that he has learned many important life lessons and skills from being on the Jackrabbit wrestling team that have challenged and shaped him as an individual.

"Being a wrestler takes a great deal of discipline, which has helped me a lot as a student and an

employee," Wolters said. "I have also learned a lot about commitment, following through and that hard work pays off. These lessons have helped me out in all aspects of my life, not just as an athlete."

Balancing life as a student and an athlete is no easy task. Wolters said that workouts and classes are his priorities.

"I'm really analytical, so I calculate how much free time I have each day so I can be sure to get my school work done on top of the workouts," Wolters said. "You have to be willing to push yourself and define commitment."

To Wolters, the best part of being on the Jackrabbit wrestling team is his teammates.

"The guys on the team are my family here," Wolters shared. "We all become best friends and it's so fun to get to do life and travel the country together. We really go through a lot together."

*Sydney Meyer*

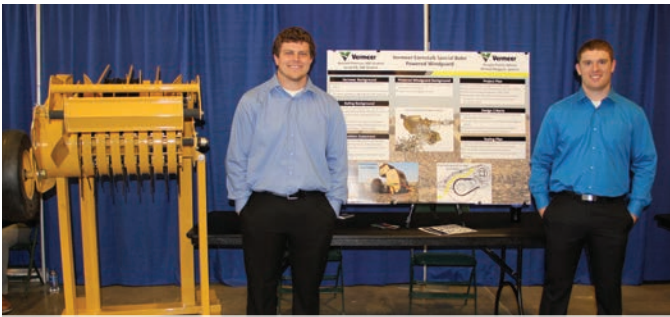


# SENIOR DESIGN CAPSTONE PROJECTS

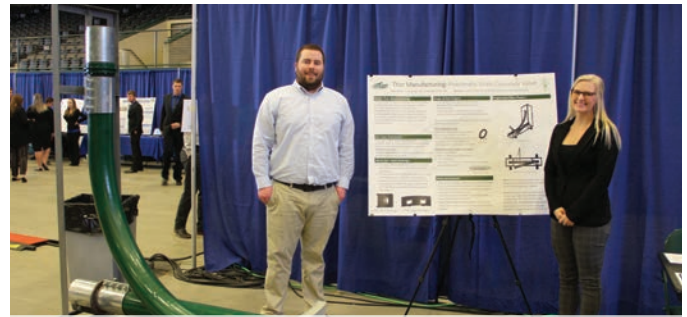
South Dakota State University Agricultural and Biosystems Engineering students complete a senior design course sequence during their final two semesters leading up to graduation. This capstone course sequence is a culmination of a student's educational experience in the ABE program, integrating design principles, procedures, theory and concepts demonstrating each student's ability to turn an idea in to reality.

"Our students benefit from the opportunity to collaborate with an industry partner to tackle an industry challenge and develop, design and execute a solution for the betterment of agricultural production or processing," explains Van Kelley, Head of the Department of Agricultural and Biosystems Engineering. The students present their project results at the SDSU Engineering Expo where each design project is evaluated by a team of judges.

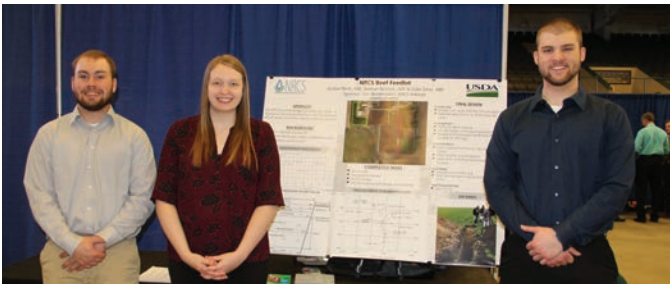
Projects are categorized in either Consumer or Non-Consumer Products or Services categories at the expo. Tia Muller and Michael Schultz earned a second place finish in the Consumer Products or Services category at the 2019 Engineering Expo for their electromagnetic boom breakaway project, sponsored by AGCO. Nate Carroll, along with two SDSU mechanical engineering students, developed an automated gooseneck control system, sponsored by Load King which also tied for first place in the Teen Choice category.



**VERMEER CORNSTALK SPECIAL BALER POWERED WINDGUARD**  
Jacob Filk, Bennet Peterson - *Sponsored by Vermeer*



**THOR MANUFACTURING PNEUMATIC GRAIN CONVEYOR VALVE**  
Brady Gomer, Shelby Wrage - *Sponsored by Thor Manufacturing*



**NRCS BEEF FEEDLOT**  
Jordan Beck, Gabi Ziese, Nathan Benson - *Sponsored by Natural Resources Conservation Service*



**DIAMOND Z MOWER CONTROLS**  
Nawaf Alkahtan, Devon Lammers (not pictured) - *Sponsored by Brian Burge*



**AGCO ELECTROMAGNETIC BOOM BREAKAWAY**  
Michael Schultz, Tia Muller - *Sponsored by AGCO*



**LOAD KING ACTIVE GOOSENECK CONTROL SYSTEM**  
Ben Schroeder (mechanical engineering), Nick Carroll, Jason Brenden (mechanical engineering) - *Sponsored by Load King Trailers*

## MESONET SPRAY TOOL AIDS PRECISION APPLICATION DECISIONS

The Mesonet at South Dakota State University is setting the bar nationally for providing real-time weather data to agricultural producers and chemical applicators. Recently the South Dakota Mesonet team has made extraordinary efforts to quickly install new temperature sensors at each of their 28 locally sponsored weather stations spread out across the state to develop its latest achievement, the Mesonet Spray Tool.

This new technology uses real-time data to report live weather conditions for efficient pesticide and herbicide application. The tool provides a simple color-coded red/yellow/green stoplight indicator that shows sprayers the best times to apply pesticides/herbicides, allowing farmers to maximize available time for spraying while staying within registered label requirements. Farmers also have the advantage of spraying more fields at the optimum time for effective weed control.

The Mesonet Spray Tool operates using custom programming developed by the South Dakota Mesonet team. It transforms temperature and wind condition data from

across South Dakota into a user-friendly tool.

This new tool also combats issues that arise from temperature inversions, which occur when cooler air layers under warmer air, inhibiting vertical mixing of airborne particles. Because air can only move horizontally during inversion, some pesticides/herbicides can drift off target and damage nearby crops that may not be resistant to protective chemicals. Sprayers can now use the Mesonet Spray Tool to avoid applying pesticides/herbicides during temperature inversions, which are not easily detectable to the naked eye.

The team's efforts directly benefit South Dakota farmers by providing real-time weather data every five minutes from the South Dakota Mesonet's 28 stations—information the farmers used as they sprayed crop protection chemicals at the start of the 2018 growing season. Nathan Edwards, South Dakota Mesonet engineer/director, explains, "These are important factors when your livelihood depends on responding to rapidly changing weather conditions."

The South Dakota Mesonet is the only network in the state that provides live inversion reports from actual measurements rather than computer models.

"Sprayers can increase spray time and increase safety at the same time when they have precision data," says Edwards.

South Dakota Mesonet reports are one of the few accepted sources for pesticide applicator recordkeeping. New this year is a feature where the sprayer can email themselves a report.

Farmers, chemical applicators, and the public at large can access the the South Dakota Mesonet website at <https://mesonet.sdstate.edu/>. Researchers can also access statewide archived data going back to 2002.

The South Dakota Mesonet Spray Tool is made possible by the support of the South Dakota Soybean Research and Promotion Council, and can be accessed at [mesonet.sdstate.edu](https://mesonet.sdstate.edu).

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**Below (from left):** Nathan Edwards, Mesonet Director; Ruben Behnke, Mesonet Climatologist; Ryan VanderLeest, Mesonet Data Specialist; John Maursetter, Mesonet Technician





## POET COMMODITY TRADING FUND ALLOWS STUDENTS TO GET HANDS-ON TRADING EXPERIENCES

The trading in agricultural futures and options class at South Dakota State University has had a different feel recently. Instead of students trading only via simulation or having to put up their own funds to make trades, the recently established POET Commodity Trading Fund allowed the class's 18 students to get a real-world experience.

"POET is proud to be a part of this program," said Jeff Broin, POET chairman and CEO. "Having the opportunity to trade with real dollars gives students a jumpstart in understanding the market that took me years of growing a commodity business to learn. I believe this will help SDSU graduates be more astute traders when they face real-world trading scenarios, whether at POET or another ag company."

That knowledge took effect almost immediately, according to SDSU Professor Matthew Diersen.

"Compared to a year ago when they couldn't trade for real, the students were much more aggressive in their suggestions when there have been real dollars at stake. The psychology alone of doing something in real money versus paper money, it seems to have a subtle impact on their behavior," Diersen said.

"The trades are limited to the semester timeframe, which limits the scale or scope of trades they make; there isn't a minimum or maximum," he continued. "Since they're building a portfolio from scratch throughout the semester, they need to think how a new trade would impact the existing set of trades they have."

Because the goal is to have future classes also make trades with the POET Commodity Trading Fund, there is pressure on the students to not lose its balance. Turner Blasius, a graduate student from Kimball, served as the risk manager.

"I took a look at every serious trade that was brought up for consideration," he said. "I made sure that we weren't over-exposing ourselves in one single trade or one single commodity. That way we could manage our risk and even if prices didn't go our way, we still had money to operate throughout the semester."

"The best part of the class was seeing how markets work and responding in so many different ways," Blasius continued. "For example, markets can account for the price potential of a new trade agreement so



it's not always necessarily going to be as big of a price swing as you could think."

Both Nathan Koehl and Lance Eide plan to take their class experience with them when they return to their family operations.

"If you want hands-on experience, this is the class," said Koehl, a junior majoring in agricultural business from Morris, Minn. "Not only are you trading with real money, but you also have this person, Matt Diersen—who's nearly an expert—to consult with, teach you and help you through it. I think this class is the best SDSU can provide because you're trading on the commodity market with real money and also get to do some of your own trading on a program on your own time."

Eide, a senior majoring in agricultural business from Clear Lake, S.D., said one of the toughest parts of the class was holding positions after making a profit on them.

"It's always enticing to buy or sell back

the original trade after you've made some money on it," he said. "Since I planned on going back to my family farm after graduation, I really wanted to know the ins and outs of trading. I plan on implementing hedging strategies as a producer, so I wanted to learn how to efficiently protect myself from any market moves."

That information is what Diersen wants each student to walk away with when the class ends.

"We're not sitting around trying to outguess the market. We strategically think through the different characteristics of the commodities and apply them to the fund," Diersen said. "It's applying what they've learned up to this point about the different tools and techniques, bring them together and evaluate how did those positions work? Did the market move the way they expected it to? Did the particular strategy work the way it was supposed to

work or the way the students had expected it to work?"

While Koehl admitted the class required spending time reviewing and conducting research outside of the classroom, he's glad he was in the class.

"If you're going to put time into any class, you're going to get more out of it," he said. "This is our last opportunity to learn before going out to do it on our own and when it's our own money. Like I said, this class is the best SDSU can provide."

*University Marketing & Communications*

## LEADERSHIP OPPORTUNITIES LAUNCH RECENT GRADUATE TO CAREER READINESS

**M**ay 2019 agricultural education graduate, Madelyn Regier, took advantage of the opportunities her South Dakota State University education gave her by getting involved in clubs, organizations and travel at the state and national level. Originally from Mountain Lake, Minn., Regier grew up on her family's farm where they grow corn and soybeans and raise hogs for Hormel Foods.

Combined with her upbringing on the farm, being involved in 4-H and FFA throughout high school sparked Regier's interest in agriculture. When deciding where to attend college, Regier said the hands-on experience that SDSU's animal science units and labs provide to students is what drew her to campus and her academic programs.

Once at SDSU, Regier became involved with campus activities and took a specific interest in clubs and organizations associated with the College of Agriculture, Food and Environmental Sciences (CAFES). She was an active member of Swine Club, Little International, Collegiate FFA/Ag-Ed Alumni Club, intramural sports, Bible studies, served as a CAFES student ambassador and studied

agriculture abroad in China.

"I was involved with anything that could keep me busy," Regier said.

### **Agriculture Future of America**

Among all her extracurricular activities, Regier devoted a significant amount of time to her involvement with Agriculture Future of America (AFA). Founded in 1996, AFA is a non-profit organization that builds bridges for young leaders to foster engagement and innovation in food and agriculture. Additionally, AFA offers students training in leadership and career development, as well as academic scholarships, to those pursuing careers in agriculture-related fields.

Early on in her college career, Regier was encouraged to apply to an AFA program by SDSU staff member Brad Blaha and was accepted into the AFA Animal Institute in Kansas City held during April 2017 of her sophomore year. In July 2017, Regier attended the AFA Crops Institute in Raleigh, N.C., and later attended the AFA Leaders Conference in November 2017 where she became committed and passionate about growing consumer awareness toward agriculture.

"Agriculture is the backbone of our nation and without it we don't have food or clothing," Regier said.

Regier was then selected to serve on the AFA Student Advisory Team in March 2018 where she and her fellow teammates planned the AFA Leaders Conference and institutes, traveled the country networking with students and professionals and helped to grow partnerships between AFA and industry leaders. As a result of this, Regier helped to form a \$35,000 partnership with Raven Industries.

"AFA is the bridge builder between college students and their future careers," Regier said. "They are able to partner students with an industry company that meets their interests in hopes of creating a network."

As a member of the Student Advisory Team, Regier helped lead the AFA Policy Institute in Washington, D.C., in March 2019. While there, the team had the opportunity to visit the United States Department of Agriculture (USDA) and talk with representatives of the Brazil and Peru embassies about commodities.

Additionally, they worked on Capitol Hill over the span of National Ag Day and



Regier climbing the Great Wall of China during a study abroad trip with SDSU.



**Above:** Regier sitting on the steps of Supreme Court in Washington D.C. for the AFA Policy Institute.

**Left:** Regier speaking on campus for the Swine Club as president and introducing Norman Borlaug's granddaughter, Julie Borlaug, to discuss topics surrounding food safety and security.

met with state representatives and senators to talk about current agricultural issues and topics in agricultural policy. In her specific role, Regier introduced many of the speakers and had the opportunity to do an interview with RFD-TV.

### National Teach Ag Campaign

Another unique leadership opportunity Regier was selected to participate in was to serve as a National Teach Ag Ambassador during her junior year. According to Regier, the mission of the ambassador program is to recruit and retain agricultural educators in the classroom and help develop the next generation of leaders, entrepreneurs, critical thinkers and problem solvers in the agriculture and food industries.

Through this opportunity, Regier and 11 of her fellow ambassadors from across the United States managed the Teach Ag booth at the National FFA Convention and Expo where they talked with prospective college students looking to pursue agricultural education as a career. She also presented workshops at the South Dakota and Minnesota FFA conventions teaching high school students about networking,

leadership and the impact of agricultural educators.

### Student Teaching

Regier spent the duration of the 2019 spring semester at Dell Rapids High School in Dell Rapids, S.D., student teaching under agricultural educator and FFA advisor Thomas Wolff.

“I’ve been able to develop a really unique relationship with the students there,” Regier said.

During her time there, Regier was exposed to a diverse program consisting of animal science, plant science, ag power technology, ag processing, ag business, wildlife and fisheries and introductory agriculture classes. She also had the opportunity to help coach FFA members in their Career Development Events (CDE’s).

“I have learned the difference between presenting information and teaching information,” Regier said. “When you teach something, you include students and work together to learn about the topic – you master it as one. I’ve learned how to ask questions and engage them so that we both learn and master the topic together.”

### What’s next?

Regier says her degree in agricultural education, combined with her animal science minor, has allowed her to diversify her education and study a different industry while educating the next generation of agricultural leaders.

“You can make any place a classroom,” Regier said. “I can make my car my own classroom, or my office, a conference I attend or wherever I go. I can educate wherever I’m at.”

As a result of an industry connection she made at the Opportunity Fair at the AFA Leaders Conference, Regier accepted a sales job with Elanco Animal Health working in the food and companion animal industries selling parasiticides, therapeutics and vaccines to veterinary clinics.

“I like to travel and I also like to market things,” Regier said. “I’ll be able to talk to people and travel and those are the two things I really wanted in a job – and I still get to be in the ag industry, the largest employed industry in the world.”

*Andrea Schubloom*



**Above:** Local Foods Director Brett Owens with pumpkins at McCrory Gardens.

**Left:** Some of the 1,900 pumpkins that were on display at McCrory Gardens.

## LOCAL FOODS EDUCATION CENTER DONATES

# OVER 5,000 PUMPKINS

The South Dakota State University Local Foods Education Center grew and donated over 5,100 pumpkins to the community, South Dakota State University and McCrory Gardens during the fall 2018 semester.

Among these, around 2,300 were given to the community, serving as decorations in several public locations, including the Brookings City Hall and Swiftel Center. McCrory Gardens had 1,900 of the pumpkins on display, while the remaining 900 pumpkins were distributed to offices and buildings on campus, as well as to the SDSU president's house, campus organizations/clubs and banquets.

The Local Foods Education Center Director Brett Owens said students enrolled in the Local Foods and Horticulture classes, several student organizations and Local Foods Education Center interns and employees helped grow and harvest 43 varieties of pumpkins,

some weighing over 500 pounds. The center also grew 3,000 to 4,000 ornamental sized pumpkins.

"This program is a great way to teach students about larger specialty crops," Owens said.

Since its start six years ago, the pumpkin program has been progressively growing.

"This is our biggest year yet for pumpkins," Owens said.

As part of the Local Foods Education Center, pumpkins are grown on the N.E. Hansen Research Farm just east of Brookings.

The SDSU Local Foods Education Center is a novel approach to addressing food security in South Dakota. The 1.2 acre-outdoor classroom is located along Medary Avenue on the northern edge of the SDSU campus. It is fully dedicated to student and public teaching and learning, emphasizing hands-on field experience

with small-scale food production and distribution practices. The center is part of the Department of Agronomy, Horticulture and Plant Science and provides learning opportunities for students studying horticulture.

*Sharon Tritz*







Jordanne Howe credits the educational and extracurricular opportunities she took advantage of as a student at South Dakota State University for helping her land the dream job she started after graduating in May 2019.

“The classes I have taken at SDSU and my involvement in extracurricular activities that have supplemented my education and set me up for success in my internships opened the doors to a full-time job,” the former agronomy student said. “My professors were really supportive and helpful as I was looking and applying for internships and deciding on a full-time position.”

Howe works with Syngenta’s Golden Harvest brand as a Developmental Sales Representative. She was an intern for the brand during summer 2018.

“I really enjoy working with farmers and helping them make decisions that will give them a better return on their investment,” Howe said. “I am so excited to begin my career.”

Originally from Redfield, S.D., Howe was drawn to SDSU because of the wide range of degree options and extracurriculars to get involved in.

Being involved in FFA and 4-H played a key role in her decision to pursue a career in agriculture. The organizations provided her with opportunities to learn about agronomy. She competed in the agronomy

FFA Career Development Event at the state and national levels, as well as competed in 4-H land judging on the national level. During her freshman year at SDSU, Howe also served as the South Dakota FFA State President.

“FFA and 4-H really exposed me to the agriculture industry and gave me opportunities to learn about agronomy,” Howe said. “The experiences I had in these organizations helped me realize I enjoy working with crops.”

Howe was very active in clubs and leadership roles on campus. She served as the SDSU Agronomy and Conservation Club president last year, providing leadership and guidance to nearly 50 members.

“It was so rewarding to see the hard work members put in throughout the year pay off,” Howe said.

During her sophomore and junior years, she was a member of the SDSU Collegiate Soils Judging Team.

“I gained a lot of practical skills on the soils judging team that have helped me in my classes and internships that I know will benefit me in my career,” Howe said.

From January to December in 2017, Howe had the opportunity to assist with the SDSU Spring Wheat Project. She worked with Karl Glover, project manager and spring wheat breeder, and Chris Nelson, research assistant.

She planted crosses from the previous year in the greenhouse, making sure they were watered and weeded, and then emasculated the plants. She also helped with harvesting plots and threshing, milling and analyzing the samples of spring wheat by running glutamate and consistency tests.

“This experience helped me realize how much work goes into research and I now really appreciate everything that those researchers in the field, greenhouses and labs do,” Howe said.

Howe was also a teaching assistant for Introduction to Soils class that is taught by senior lecturer Cheryl Reese.

She credits several professors who really invested in her for enhancing her educational experience.

“I am so thankful for all the awesome hands-on learning experiences I have had as a student,” Howe said. “I am also extremely grateful for my professors who have invested so much time into me and have shown me how much they care about students.”

*Sydney Meyer*



Malo (left in back row) with members of the SDSU Soil Judging Team he coached.

## DOUG MALO RETIRES AFTER 43 YEARS OF TEACHING

As he prepared for retirement, one of South Dakota State University's longest-serving faculty members, Doug Malo, says helping students succeed was the highlight of his 43-year career. The distinguished professor of Agronomy, Horticulture and Plant Sciences taught over 8,500 undergraduate students and more than 350 graduate students during the course of his career. Malo's extensive dedication and contributions to South Dakota State University students and agricultural research have been a life-long devotion.

"Doug Malo brought an uncompromising pursuit of excellence in teaching and scholarly research to SDSU," says Agronomy, Horticulture and Plant Science Department Head David Wright.

Nominated for emeritus status, the distinguished professor has received more than 30 honors and awards for his effective teaching during his years of service in the department. He was awarded the prestigious USDA National Award for University Teaching Excellence in the Food and Agricultural Sciences, named South Dakota Professor of the Year by the Carnegie Foundation, and presented with

the Dean's Award for Excellence in Team Teaching from the SDSU College of Agriculture and Biological Sciences. He was honored six times as the Teacher of the Year by undergraduate students of the SDSU Agronomy and Conservation Club, among other awards.

Despite these accomplishments, Malo says the highlight of his career is the success of his students.

"Probably the greatest joys I have realized in the educational process over the past 40 years have been the optimistic attitudes, the concern and compassion for others, the daily challenge of inquisitive minds, and the bubbling enthusiasm of students," Malo says.

Malo's former students are now highly respected members of land grant universities, federal agencies, international non-government organizations, and leaders in local communities. His students also have careers in the South Dakota Game, Fish and Parks Department and the South Dakota Department of Agriculture. Additionally, impacting students beyond the SDSU campus, Malo has extended his service in 10 foreign countries, including Bolivia, South Korea, Ukraine,

Haiti, Senegal, and Honduras. As a visiting soil scientist, he taught courses and consulted local farmers on soil and crop management, to help further their yields and agricultural development. He also taught English classes for students in South Korea and Ukraine.

"Service is fundamental to the mission of SDSU," Wright notes. "Doug is passionate about giving back to the university community. His contributions made significant impacts nationally and internationally by promoting and supporting long-term soil and agriculture productivity."

Malo's career at SDSU began in 1975 as an assistant professor in the department. With his graduate focus in soils, Malo has taught 20 different related courses including: Introductory Soils, Soil Judging, Soil Geography and Land Use, Integrated Natural Resource Management (senior capstone course for Agronomy and Precision Ag majors), and Soil Genesis and Taxonomy. In addition, he also served as a mentor for graduate thesis and research, which led to the development of more than 100 scholarly works and 250 abstracts and technical bulletins.

## SOIL JUDGING TEAM PLACES SIXTH AT NATIONAL CONTEST

The Soil Judging Team placed sixth at the national North American Colleges and Teachers of Agriculture (NACTA) Soil Judging Contest held at Murray State University in Murray, Ky., on April 7-13, 2019. Individually, Miguel Mena of Harland, Iowa, placed fourth out of 130 participants.

Other team members include Willow Dean of Monticello, Minn., Jennifer Tonak of Willow Lake, S.D., Wyatt Brown of Brookings, S.D., Zoey Huntley of Estherville, Iowa, David Parsley of Flandreau, S.D., Kaycee Szymanski of Rapid City, S.D., and Zackary Helget of New Ulm, Minn. The team is coached by Douglas Malo, Distinguished Professor Emeritus of the Agronomy, Horticulture and Plant Science Department.

Soil judging involves describing soil morphology, which includes texture, color,

structure, horizonation, consistency, rock content, redox features and salts; soil profile characteristics, including permeability, effective soil rooting depth, drainage class, wetness class and water holding capacity; site characteristics such as parent materials, landforms, percent slope, hillslope position and surface runoff rates; soil classification; and soil interpretations, which is land use suitability.

The team will be in action again in September at the Region 5 Collegiate Soil Judging contest held in Lincoln, Neb.

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**Picture:** Front row left to right - Zoey Huntley, Jennifer Tonak, Willow Dean, Kaycee Szymanski. Back row left to right - David Parsley, Wyatt Brown, Miguel Mena. Not pictured are Zachary Helget and coach Douglas Malo.



Though classes and coursework were a major responsibility of Malo's profession at SDSU, he believes that education is far more than classroom learning.

Working with students in all phases of college, as well as coaching and supporting the SDSU Soil Judging Team, Malo emphasized the importance of helping his students personally and professionally grow as individuals in his teaching philosophy.

"I like to think that a small part of me leaves with every student I teach," Malo says. "Each instructor leaves an impression of his/her values, character, and compassion."

As an undergrad, Malo attended Iowa State University, initially pursuing a degree in architecture. "It was all right, but I didn't quite feel at home," he explains.

Returning back to the agricultural roots that were instilled in him on his family farm in Sherburn, Minn., Malo changed his major to agronomy and plant pathology. Prior to graduating college,

Malo had no initial plans to continue his education.

He said that receiving a masters and doctorate degree happened almost by accident.

Around the time-period when Malo completed his agronomy degree at ISU, the federal government designed a program called the National Defense Education Act. Intimidated by Russia sending up a satellite, the U.S. created this act to promote involvement in science programs and advancement in technology.

The NDEA provided free schooling, including tuition, housing, books, etc., for students that were obtaining their graduate degrees in science and technology programs.

Motivated by this incentive, Malo took the opportunity and was accepted into North Dakota State University's graduate program for soil science. Upon earning his masters and doctorate degrees within three years, Malo continued pursuing a career

path in agronomy research and education by becoming a professor at SDSU.

Malo's work in soil survey, soil land use, soil management, soil classification, geomorphology, soil productivity and soil analysis provided the foundation for a large part of the agronomic and soil research, teaching and SDSU Extension activities conducted in South Dakota over the past 40+ years.

"I couldn't have asked for a better place to work," Malo says, wrapping up his 43-year career in the SDSU Agronomy, Horticulture and Plant Science Department. He is grateful for the support he's received from the department and college.

"They've allowed me to do whatever I've chosen to do and hopefully it's been helpful to a lot of people. A job should be a vocation, not a task," he concludes.

*Sharon Tritz*

Woodard (back row second from left) with a group of Egyptian farmers he taught about tomato production.



## HOWARD WOODARD'S 29-YEAR CAREER AS SOIL SCIENCE PROFESSOR & RESEARCHER HAD A GLOBAL IMPACT

Reflecting on his 29-year career as a soil science professor and researcher at South Dakota State University, Howard Woodard says what he enjoyed most was being a mentor to students. Woodard retired in December of 2018.

“To me, the best part of being a professor was building relationships with students and encouraging them to reach their goals,” Woodard says.

Nominated for emeritus status, Woodard trained more than 4,900 undergraduate students and 60 graduate students in soil fertility, geology and global food systems. He mentored student research that resulted in more than 289

independent and collaborative scholarly works in prestigious journals, books and technical bulletins.

Woodard also provided dedicated leadership to the Department of Agronomy, Horticulture and Plant Science serving as graduate coordinator for 17 years and internship coordinator for eight years.

“Howard brought an uncompromising pursuit of excellence in teaching and scholarly research to SDSU,” says David Wright, head of the Department of Agronomy, Horticulture and Plant Science.

Woodard even mentored students beyond the classroom by serving as an advisor for the Navigators Campus

Ministry, Agronomy and Conservation Club, and Plant Science Graduate Student Association.

“It really was a joy to be a mentor for students and hopefully make some sort of positive impact on their lives,” Woodard notes.

In addition to teaching, Woodard conducted research focused on fertilizer placement, nutrient recycling, soil testing, and tillage issues regarding crop production and yield.

“Howard established himself as an international leader in soil science,” Wright says. “His work contributed to the education and mentoring of a generation of agronomists, crop consultants, farmers



and researchers through important and timely interactions regarding resource management, land stewardship and community responsibility.”

Woodard also served as supervisor of the SDSU Northeast Research Farm located near South Shore for five years. He oversaw and organized the research projects going on at the farm, worked with the board of advisors and helped organized the annual field day.

In January of 1990, Woodard started at SDSU as an assistant professor of soil science with an emphasis in soil fertility. He had a combined research and teaching appointment.

Woodard says he first became interested



Woodard (center) with the Navigators Campus Ministry he served as an advisor for.

in agriculture when he worked as a hired hand for local farmers in high school.

“I was really attracted to the fact that these farmers were professionals and business people, but they were also land stewards,” Woodard says. “This stimulated my interest in agriculture.”

Woodard received a Navy ROTC scholarship that allowed him to go to college. He attended the University of Rochester in New York and got a bachelor’s degree in geology.

After graduating, he was commissioned as a supply officer in the Navy for five years. After serving in the Navy, Woodard decided to get a bachelor’s degree in agronomy from Rutgers University in New Jersey. He was then offered the opportunity to get a doctorate in agronomy from Rutgers University without having to get a masters first. Woodard took advantage of the opportunity. He went on to get his post-doctorate in agronomy from Texas A&M and married his wife Jo.

“While I was working on my post-doc, I realized I wanted to teach and do research,” Woodard explains. Shortly after completing his fellowship, he started his career at SDSU.

Impacting students beyond the SDSU campus, Woodard took advantage of the opportunity to do a faculty exchange and spent four months teaching English courses and sharing about his research at the Yunnan Normal University in Kunming, China. Woodard brought along his wife and two children, who were two and four years old at the time.

Additionally, he taught a geology course to students at SDSU’s sister college, Unidad Académica Campesina in Carmen Pampa, Bolivia and at Yunnan Normal University in Kunming, China.

“It was such a privilege to have these opportunities to teach abroad,” Woodard says. “I really enjoyed interacting with the students and professors at the universities and I learned how to build trust with people of different cultures.”

Woodard also volunteered as a crop consultant for the United States Department of Agriculture Farmer-to-Farmer-Program. As part of the program, he helped farmers and scholars in Russia, Kazakhstan, Ukraine, Lebanon, Egypt, Cameroon and Ghana increase their understanding of soil management and cropping systems to improve crop yields.

“These experiences helped me be a better professor,” Woodard explains. “I shared what I learned in these countries with my classes in hopes that students would have an understanding of agriculture on the global scale as well.”

*Sydney Meyer*

## CROPS JUDGING TEAM SEES SUCCESS IN 2018

The Crops Judging Team left a notable footprint with high placings in 2018. The team traveled to the American Royal Kansas City Collegiate Crops Contest on November 13, 2018 and the Chicago Collegiate Crops Contest on November 17, 2018, placing second as a team in seed analysis and fourth as a team overall at both competitions.

Team members included Jennifer LaVoy of Tracy, Minn., Rebecca Van Regenmorter of Inwood, Iowa, Matthew Wordes of Sacred Heart, Minn., Joshua Reimers of Dalton, Neb., and Reed Feller of Blunt, S.D. The team was coached by Brent Turnipseed, professor and assistant head of the Department of Agronomy, Horticulture and Plant Science.

“Being on the team gives students a great experience to travel, meet new people and understand how grain grading is done throughout the United States,” said Turnipseed.

The contests are divided into three categories: commercial grain grading, seed analysis and identification. Grain grading provides a basis for marketing and quality control over grain products. This section reveals students’ abilities to recognize crop products for their market worth, as students must be familiar with defects that reduce grain quality.

In the seed analysis section, students must determine the value of seed for planting and for market. This is done by identifying other crop, noxious weed and common weed seeds that are contaminants in the base samples. As a result, students are provided with knowledge on whether the seed is marketable or needs cleaning prior to sale.

During plant and seed identification, students will inspect and identify weed and crop species and varieties from around the country. With this skill, they learn how to make weed control and crop production management recommendations.

“These types of contests help prepare students for a lot of job opportunities,” said Turnipseed. “If students want to become an agronomist, crop consultant, seed or grain analyst or grain grader, plant and seed identification will be invaluable to them and is fantastic training that no classroom course could provide.”

Turnipseed said it is common for the team to study and practice up to 40 hours each week in the month leading up to the national contests. The team also participates in a regional contest and two practice contests to prepare before they compete at the national level.

Showing individual success at the American Royal contest in Kansas City,

Wordes placed sixth overall, Van Regenmorter placed eighth overall and LaVoy placed 12th overall. Van Regenmorter placed second in grain grading and third in seed analysis. Wordes tied for second with Van Regenmorter in grain grading and placed ninth in seed analysis. LaVoy placed fourth in seed analysis. As a team, they also placed second in seed analysis, fourth in plant and seed identification and fourth in grain grading.

At the Chicago Collegiate Crops Contest, Wordes placed sixth overall, Van Regenmorter placed 11th overall and LaVoy placed 12th overall. Additionally, Wordes placed sixth in grain grading, sixth in plant and seed identification and ninth in seed analysis. Van Regenmorter placed sixth in seed analysis and ninth in plant and seed identification. LaVoy placed fifth in seed analysis.

“I was very happy with how they performed, they studied and did extremely well,” said Turnipseed. “It is a trip they will always remember.”

*Andrea Schubloom*

**Below (from left):** Matthew Wordes, Joshua Reimers, Reed Feller, Jennifer LaVoy, Rebecca Van Regenmorter and Brent Turnipseed, the team coach.





## ANNUAL BULL SALE RUN BY STUDENTS

South Dakota State University students enrolled in a Beef Seedstock Merchandising course get unique real-world experience by putting on the annual SDSU Angus and Sim Angus Bull Sale every spring. This year, the sale was held on April 5, 2019 at the SDSU Cow-Calf Education and Research Facility.

In preparation for the sale, students in the class are in charge of advertising, videoing and photographing the bulls, making the catalog, handling client relations and planning the details for sale day. On sale day, the students get experience doing everything from clerking to acting as point people.

“I enjoyed the real-life aspect of this class,” said Amy Beckstrand, a senior agricultural communications and animal science major. “There are so many little details you don’t even think about until you have the opportunity to help. I also really enjoyed being a part of this tradition SDSU offers, this is the 27th bull sale the university has held and a majority of the clients come back every year. It is great to see the support.”

Around 30 bulls with satisfactory semen

quality and superior scrotal circumference are sold each year.

SDSU offers free delivery of bulls within 200 miles of Brookings. If buyers pick up their bulls, they receive a \$100 discount per head.

Buyers purchasing two or more bulls, paid by the same check and transferred to the same name, receive a 10 percent discount from their purchase price.

“We really strive to take good care of

our customers because we truly appreciate them,” said Cody Wright, professor of the Beef Seedstock Merchandising class.

The sale draws buyers from all over the country, selling bulls to producers from West Virginia to North Dakota.

*Sydney Meyer*



## TOFUKO WOYENGO RECIPIENT OF RICHARD WAHLSTROM ANIMAL SCIENCE AWARD FOR EXCELLENCE

The South Dakota State University Department of Animal Science awarded Tofuko Woyengo the 2018-2019 Richard Wahlstrom Animal Science Award for Excellence.

Woyengo has been an assistant professor and researcher in the Department of Animal Science since 2015. He teaches the graduate monogastric nutrition course at SDSU. Woyengo's research is focused on swine nutrition and he has published 18 peer reviewed scientific manuscripts and 28 scientific abstracts. He has received over \$2.5 million in research funding and his work has received worldwide acknowledgement. He has been asked to speak and collaborate both nationally and internationally.

"Dr. Woyengo is not only an accomplished researcher but a beloved professor," said Joe Cassady, Animal Science Department head, "His students appreciate his dedication to providing them excellent guidance of their graduate programs through experiment design, data collection and finishing with scientific writing of manuscripts."

*Nicole Hudson*



**Right:** Tofuko Woyengo (left) with Richard Wahlstrom.

## MICHAEL MACNEIL RECEIVES DISTINGUISHED ALUMNI AWARD

The South Dakota State University Department of Animal Science awarded Michael MacNeil the 2018-2019 SDSU Distinguished Department of Animal Science Alumni Award.

MacNeil received his Ph.D. in animal science from SDSU in 1982. Following the completion of his Ph.D., MacNeil was

employed as a statistician and animal scientist at USDA-ARS U.S. Meat Animal Research Center at Clay Center, Neb. until 1988. From 1988 to 2011, MacNeil served as a research geneticist at the Fort Keogh Livestock and Range Lab at Miles City, Mont. Since 2012, MacNeil has been the sole proprietor of Delta G, a beef cattle genetics company located in Miles City, Mont.

MacNeil gives back to the department in a variety of ways. MacNeil and his wife are donors to the department. MacNeil has also assisted with the development of the international travel course to South Africa. MacNeil donates his

time to the department by traveling with the students on the trip to South Africa each year and giving guest lectures on campus from time to time.

"MacNeil is one the of the world's leading beef cattle geneticists," said Joe Cassady, Animal Science Department head "His research and services are directly responsible for the development of many of the economic selection indexes used by breed associations today. He also was a pioneer in the study of inbreeding in beef cattle. MacNeil's research has had a worldwide reach and he has worked extensively to develop breeding and genetics infrastructure in South America and South Africa."

*Nicole Hudson*



**Left:** Michael MacNeil (left) speaking at the Department of Animal Science Award banquet.





## KRISTA FUOSS NAMED OUTSTANDING STUDENT IN ANIMAL SCIENCE

This spring, the South Dakota State University Animal Science Department honored one graduating senior from the department with the Outstanding Student in Animal Science award. Krista Fuoss was selected from 12 nominated seniors and received the award at the first annual Celebration of Animal Science Achievements and Excellence banquet held on April 25, 2019.

Students were nominated for the Outstanding Student in Animal Science award, which is new this year, by clubs they were involved in and departmental faculty members. A committee then selected a student based on academic performance, leadership, scholarship activities, extra-curricular activities and community service. The selected student receives a monetary award through the I.B. Johnson Scholarship Fund.

"Krista combines significant academic achievement, outstanding leadership and service to the community," said Rosie Nold, assistant head of the Animal Science Department.

Growing up on a farm near Armour, S.D., Fuoss realized at an early age that she enjoyed working with animals. As a result, she decided to pursue a degree in animal science at SDSU.

Fuoss said she really appreciated that she was able to gain hands-on experience right away with the introductory animal science course and then the amount of experiential learning in classes increased as she got further along in completing her degree.

"I really appreciate how many real-world experiences I was able to have in all the classes, from regularly handling the animals at the SDSU livestock units near campus, to visiting various agricultural businesses, to being put in specific scenarios that we will likely face in our careers," Fuoss said.

She credits the professors for helping her be successful both as a student and professional. She said many of the professors went out of their way to help her when needed and really played a supportive role in her time as a student.

"The professors are so great at what they teach and it is because of them that I thoroughly enjoyed all the classes," Fuoss said.

She also took advantage of the opportunity to get involved in undergraduate research with Crystal Levesque, assistant professor of swine nutrition. Fuoss began doing research her sophomore year and continued through

her junior year. Her research focused on the effects an essential oil has on post-farrow constipation.

"Doing undergraduate research showed me that I love the science aspect of animal science," Fuoss said.

Fuoss served as a leader to students in the College of Agriculture, Food and Environmental Sciences as president of the Prexy Council, which is the student-led governing body of CAFES clubs and organizations.

"Holding this leadership role really stretched me outside of my comfort zone and is something I am very proud of," Fuoss said.

While at SDSU, she met her soon-to-be husband, Justin Krell. Krell graduated from SDSU with an associate degree in agricultural science. The two are getting married this summer.

Following graduation, Fuoss started a summer internship working in customer relations for Land O'Lakes and CHS Inc. After that, she hopes to begin a career where she can work with producers to help them solve their problems and improve their operations daily.

*Sydney Meyer*



## 2018 LIVESTOCK JUDGING TEAM COMPLETES STRONG SEASON

The 2018 South Dakota State University Livestock Judging Team competed in 12 contests over the course of the year and took home some top finishes.

“Early in the season, the team set many goals and the dedication the team showed throughout the season was evident through the strong outings they had,” coach Brady Jensen said.

The team members include: Josh Brown of Peterson, Minn., Shaye Jungwirth of Hoven, S.D., Lindsey Wolles of Dell Rapids, S.D., McKenna Cech of Glenville, Minn., Spencer Wangen of Ellendale, Minn., Amy Beckstrand of Waldorf, Minn., Adam Eichacker of Salem, S.D. and Jonathon Linke of Woonsocket, S.D. Brady Jensen is the head coach and serves as an instructor in the Animal Science Department. The team also had assistance from Riley Ruble and Wyatt Smith, who were both previous judging team members.

During the season the team competed at the National Western Stock

Show, Sioux Empire Livestock Show, Iowa Beef Expo, San Antonio Livestock Exposition, Houston Livestock Show and Rodeo, Meat Animal Evaluation Contest, National Barrow Show, AKSARBEN, Flint Hills Classic, Tulsa State Fair, American Royal and North American International Livestock Exposition.

Throughout the year, the team also helps host 4-H and FFA contests on campus in the Animal Science Arena, which allows the team members to see the other side of a judging contest. In June, the team hosted two livestock judging camps on campus and 4-H and FFA youth from South Dakota, Minnesota, Iowa, Wisconsin, North Dakota and Nebraska attended the camp.

“After many trips, practices and memorable experiences, the team thoroughly enjoyed their time representing SDSU and are excited that they achieved some of the goals they set forth early on,” Jensen said.

**Pictured from left:** Coach Brady Jensen, Lindsey Wolles, Josh Brown, Shaye Jungwirth, Jonathan Linke, Amy Beckstrand, Adam Eichacker, McKenna Cech, Spencer Wangen, Riley Ruble.

### Highlights from the season:

#### National Barrow Show

Team Results: 9th Overall  
Josh Brown: 14th Overall

#### AKSARBEN

Team Results: 6th Overall  
Shaye Jungwirth: 8th Overall

#### American Royal

Team Results: 10th Overall  
Shaye Jungwirth: 16th Overall

#### North American International Livestock Exposition

Team Results: 12th Overall

# 2018 MEAT JUDGING TEAM CLAIMS TOP PLACINGS

Participating in eight competitions during the year, the 2018 Meat Judging Team claimed several top five finishes.

Members included Josh Homann, a junior from Pipestone, Minn.; Logan Ellingson, a junior from Warner, S.D.; Clay Newton, a junior from Echo, Minn.; Molly Kroeger, a junior from Lennox, S.D.; and Kyle Laveau, a senior from Wrenshall Minn. The team was coached by Christina Fehrman, graduate research assistant, and advised by Keith Underwood, associate professor in the Animal Science Department.

“Within the team, there was always the goal to be the best judge of the day and these five continually pushed each other to be better judges and never wavered in their commitment to their team,” Fehrman said. “It was an honor to coach the 2018 SDSU Meat Judging Team and I could not be more proud of their accomplishments

throughout the season and I cannot wait to see what these students do in their futures.”

## Highlights from the season: Iowa State Intercollegiate Meat Evaluation Contest

Team Results: 3rd overall  
Molly Kroeger: 10th overall

## Missouri Association of Meat Processors Processed Meat Judging

Team Results: 4th overall  
Kyle Laveau: 3rd overall

## National Barrow Show Intercollegiate Meat Judging Contest

Team Results: 2nd overall  
Clay Newton: 2nd overall  
Molly Kroeger: 7th overall

## National Western Intercollegiate Meat Judging Contest

Team Results: 7th overall

## High Plains Intercollegiate Meat Judging Contest

Team Results: 10th overall

## American Royal

Team Results: 6th overall

## Eastern National

Team Results: 9th overall

## International (National Championship competition)

Team Results: 2nd in placings, 8th overall  
Kyle Laveau: 9th in total placings  
Logan Ellingson: 1st in total placings

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**Pictured from left:** Coach Christina Fehrman, Josh Homann, Logan Ellingson, Clay Newton, Molly Kroeger, Kyle Laveau, Keith Underwood.



## AGRICULTURAL EDUCATION STUDENT CHOSEN AS

# *65th Princess Kay of the Milky Way*

**R**ebekka Paskewitz, a South Dakota State University student majoring in agricultural education, was crowned the 65th Princess Kay of the Milky Way at the Minnesota State Fair on Aug. 22, 2018.

"I am so excited to make connections with dairy farmers and consumers in the upcoming year, to tell the story of dairy and to welcome others into the dairy community that has so warmly welcomed me," Paskewitz said.

The junior from Browerville, Minn., has served as the official goodwill ambassador for nearly 3,000 Minnesota dairy farm families during her yearlong reign. She is the daughter of Alan and Vicki Paskewitz.

Paskewitz has been making public appearances to help connect consumers to Minnesota's dairy farm families and work to bring dairy to life through conversations, speaking engagements and classroom visits.

Paskewitz grew up being involved on her uncle's dairy farm and showed dairy cattle with her cousins. She also served as

a dairy ambassador and dairy princess, worked on several dairy farms and competed in dairy quiz bowl.

"I realized I loved telling the story of dairy and I looked for more avenues to be able to do so," Paskewitz explained.

SDSU Dairy and Food Science Department Head Vikram Mistry notes that Paskewitz is passionate about the dairy industry.

"Her selection as Princess Kay is a clear recognition of her leadership as an individual and in the industry," Mistry said. "She is an active member of the SDSU Dairy Club and we are proud to have her as a student at SDSU."

Candidates for Princess Kay are selected through an extensive process. In early summer, 12 finalists are selected each year from among approximately 84 county princesses throughout Minnesota based on their knowledge of the dairy industry, communication abilities and enthusiasm for dairy. The 12 finalists make



appearances at public relations events throughout the summer and the new Princess Kay is coronated the evening before the Minnesota State Fair begins.

Of the 2018 finalists, two more were SDSU students in addition to Paskewitz. The other SDSU student finalists are Ashley Maus, dairy manufacturing and dairy production major from Freeport, Minn., and Calissa Lubben, dairy production major from Edgerton, Minn.

Several other SDSU students have also received the honor of being finalists in the past, including Abby Hopp, Margaret Socha, Makaila Klejeski, Chelsea Schossow and Sarah Post. Kyla Mauk was named Princess Kay of the Milky Way in 2016.

Paskewitz's first official duty as Princess Kay was to have her likeness carved in a 90-pound block of butter on the opening day of the Minnesota State Fair. Each of the other 11 finalists also have the honor of being carved in butter.

Midwest Dairy sponsors the Princess Kay program, which is funded by dairy farmers through their promotion checkoff.

*Sydney Meyer*



Rebekka Paskewitz was crowned the 65th Princess Kay of the Milky Way at the Minnesota State Fair.

## DAIRY AND FOOD SCIENCE DEPARTMENT BOASTED THE LARGEST FRESHMAN CLASS IN HISTORY

This past year, Alfred Dairy Science Hall was flooded with 38 eager students experiencing their first year in the Dairy and Food Science Department at South Dakota State University.

"This is the largest class I have seen in 32 years," said Dairy and Food Science Department Head Vikram Mistry, who has been with the department since 1986.

Mistry believes it is because of recruitment efforts that the freshman class has increased so drastically over the past few years.

"Coursework is changing, more research is being done, job opportunities continue and scholarships increase," Mistry said about the department.

This year the department awarded \$150,000 in scholarships, \$30,000 of which went to incoming freshmen. The number and value of scholarships has increased significantly since 1999, when \$30,000 total in scholarships were awarded.

This year's freshman class included students in dairy manufacturing, dairy production and food science and represents over seven states and two countries.

"The number of new students is so positive for farmers and processors," said Tom Peterson, South Dakota Dairy Farmers manager for Midwest Dairy. "The state has had a focus on growing and rebuilding our dairy industry for the last 10 years and to see it grow is hugely positive."

Each of the students comes from a different background and story.

"I got involved in the dairy industry last year when I judged dairy products through FFA," said Sophia Linnemann, a freshman dairy manufacturing student from Beatrice, Neb.

Linnemann said that during her tour at SDSU, admissions suggested she meet with the Dairy and Food Science Department. After meeting with Howard Bonnemann, an advisor in the department, to discuss job opportunities in the dairy industry and tour the Davis Dairy Plant, she knew dairy

manufacturing was the major for her.

"My selection of major happened by chance and I am extremely grateful that I was introduced to dairy science, because I have fallen in love with this field," Linnemann said.

Freshman dairy production student Tiffany Van Buren from Waupun, Wis., said the hands-on learning opportunities brought her to the SDSU for the dairy program.

"Since I wasn't exactly sure what part of the dairy industry I wanted to study, having both the dairy farm and dairy plant as part of campus was a huge plus to me," Van Buren stated. "I am glad I chose SDSU and I'm happy I get to call it my home for the next four years."

Along with California Polytechnic College in California, SDSU is one of two dairy manufacturing programs in the nation, Mistry said students have the entire chain from farm to product at SDSU.

"Employers come looking for students because of the dairy focus as well as a hands-on experience," Mistry said. "The department is providing value to the industry, which is a huge opportunity for growth."

The Dairy and Food Science Department has a 100 percent job placement rate.

As an industry person, Peterson views the SDSU dairy and food science students as well-prepared and positive.

"No matter what the circumstances are, the students can carry a message and do it very positively," he stated. "The enthusiasm and excitement is strong when talking to the next generation."

Linnemann believes her future success will be a result of the passion of the department, which currently is home to 22 faculty and staff members and 42 post doctorates, graduate fellows and graduate assistants.

"Here at SDSU, I am more than just another student ID number, I'm part of the Jackrabbit family," she said. "As a freshman, my professors already know me as a person, go out of their way to have a



**Above:** Kate Spadgenske and Johannah Nielson in the department's freshman seminar class.

conversation with me, and have an invested interest in my future. This passion for dairy and food science is obvious and shows through the success of their work."

Over the next few years, the students will have chances to participate in many opportunities, including undergraduate research, dairy club, food science club, trips and tours.

*Abby Hopp*

## DAIRY ALUMNUS *Transforms* THE DAIRY INDUSTRY IN ALASKA

**S**outh Dakota State University alumnus Joe Van Treeck's illustrious career in the dairy industry allows him to contribute to the success of SDSU students by funding a scholarship, something he's done for 30 years. His contributions to SDSU and the dairy industry have made a lasting impact.

Van Treeck graduated from SDSU in 1980 with a bachelor's degree in dairy manufacturing. He was recruited to SDSU as a nontraditional student by Shirley Seas, past dairy plant manager, while working at a butter creamery in Rapid City.

Previous to that, Van Treeck had no background in the dairy industry, growing up north of Chicago. He attended Black Hills State University to play football but decided not to finish his education there and instead went to work in Rapid City at a creamery. While at BHSU, Van Treeck met his wife, Mary. They had two children when they decided to make the move to SDSU for Van Treeck to pursue a degree in dairy manufacturing in 1978.

While at SDSU, Van Treeck was a student foreman in the SDSU Dairy Plant. He made a historic contribution to SDSU as one of two student inventors of the legendary Cookies 'n' Cream ice cream. The other student inventor was Joe Leedom and they were under Seas' supervision.

He was also a member of the Dairy Club and the Dairy Products Judging Team.

"Many of my friendships in the industry today were formed when I was involved in Dairy Club as a student," said Van Treeck.

He was a contestant for the 1980 SDSU Dairy Products Judging Team and was All Products Champion at the Chicago Regional Competition where the team took top honors. The team placed second at the national competition held in Portland, Oregon, that year. Later, he served 10 years as a milk judge for the National Collegiate Dairy Products Evaluation contest.

"Judging was important because I had a knack for the products," explained Van Treeck. "I ended up working in the fluid milk business, so judging paid off from a quality control standpoint."

Van Treeck received scholarship support as a student that helped him significantly and he was very encouraged that there were people supporting him, so he decided he wanted to provide the same kind of assistance to a student someday. He and his wife have now been funding a scholarship for an SDSU student pursuing a degree in dairy for more than 30 years.

Following graduation, Van Treeck worked for Milnot Corporation in Seneca,

Missouri, producing canned evaporated milk, sweetened condensed milk and butter. He held multiple positions, beginning as laboratory manager with successive promotions to plant superintendent.

After working at Milnot Corp. for five years, Van Treeck was hired as the plant manager of Matanuska Maid Dairy in Anchorage, Alaska, in 1985. The Matanuska Maid Dairy was a fluid milk, juice and cultured product processing operation.

Alaska's unique West Coast location provided the opportunity to export goods and services and for expansion of market area for Matanuska Maid and other Alaskan-based companies. In support of the business community, the University of Alaska launched the business-global logistics and supply chain management program. Van Treeck seized the opportunity to earn a master's degree in this field while working at Matanuska Maid Dairy to gain a better understanding of how to do business on a global scale. He graduated from the University of Alaska in 2002.

"I worked to turn the Matanuska Maid Dairy around by doing cutting-edge things. We became the second dairy in the country to make yogurt with artificial sweetener and the first dairy to own and manufacture PET plastic bottles for bottling milk, juice and water," Van Treeck explained.

He went on to serve more than 20 years as president/CEO and general manager, becoming the company's longest tenured senior executive. The 71-year-old company ceased operation in late 2007.

Following the closing of Matanuska Maid Dairy, he served as general manager for Anchorage operations for Advanced Supply Chain International. The company provides third-party supply chain, logistics, procurement and maintenance optimization solutions to clients in asset-intensive industries, predominantly the natural resource extractive industries of petroleum and mining.



Joe (right) and Mary (left) Van Treeck present a scholarship to a student pursuing a degree in dairy at SDSU.



Van Treeck recently retired as CEO of Alaska Glacier Products LLC in Anchorage, a position he held since 2011. It is Alaska's No. 1 small-package bottler of Alaskan glacier sourced water from the Eklutna Glacier.

Van Treeck also owned JVT Consulting, a management consultancy providing organizational development,

strategic planning, budget creation, procurement, supply chain and logistics solutions primarily for small and startup food and beverage clientele.

Professionally, Van Treeck was appointed by the U.S. Secretary of Agriculture to serve three terms on the National Milk Processor Education Program Board, inducted as an honorary member of Sigma Beta Delta, International Honor

Society by Alaska Pacific University, and selected as Honorary Commander, 3rd Wing-Operations Group, Elmendorf AFB Alaska.

He has served on several other national and local boards in various capacities including: Milk Industry Foundation, SECO & Golden 100 Purchasing Cooperative, Alaska Zoo Foundation, The

Foundation of the ARC of Anchorage, Continuing Education Employment Center and Alaska Association of Manufacturers.

He currently serves on the board of the Northwest Trade Adjustment Assistance Center, an organization funded by the U.S. Commerce Department to assist companies attempting to sell goods and services off-shore or who are negatively affected by foreign imports to the U.S.

Van Treeck credits much of his success to his education and experiences at SDSU, as well as mentors in his life who provided guidance along the way and his wife who provided encouragement and support.

"Things didn't happen this way because of me, I got where I am because of people mentoring and supporting me," Van Treeck said. "I feel very fortunate to have attended SDSU because my experiences and education helped me significantly throughout my entire career."

*Sydney Meyer*

## SDSU CELEBRATES **40 YEARS** OF COOKIES 'N' CREAM ICE CREAM

People around the world have been enjoying the Cookies 'n' Cream Ice Cream flavor for 40 years thanks to past SDSU Dairy Plant Manager Shirley Seas and dairy science alumni Joe Leedom and Joe Van Treeck. The group invented the flavor in 1979 in the SDSU Dairy Plant.

Since then, the flavor has become a staple of SDSU and was even named the best ice cream treat in South Dakota by the Food Network Magazine.

In honor of this historical achievement, the SDSU Students' Association voted to declare April 12, 2019 Cookies 'n' Cream Ice Cream Day.

**Pictured:** Vikram Mistry, Dairy and Food Science Department Head; Jennifer Mueller, Students' Association Finance Chair; Allyson Monson, Students' Association President; John Haberkorn, SDSU Davis Dairy Plant Manager.





## HOWARD BONNEMAN RECEIVES 2018 REGIONAL ACADEMIC ADVISING AWARD

Howard Bonnemann, lecturer and advisor in the South Dakota State University Dairy and Food Science Department, was a recipient of the Region 6 Excellence in Academic Advising Award from the National Academic Advising Association (NACADA).

Region 6 covers Iowa, Manitoba, Minnesota, Nebraska, Northwest Territories, North Dakota, Saskatchewan and South Dakota.

Bonnemann advises undergraduate students from their sophomore through senior years in the dairy production, dairy manufacturing and food science majors. He also teaches a range

of dairy and food science courses. He has been with the Dairy and Food Science Department since 1997, first as the Dairy Plant Manager and since 2011 in an instructor and advisor role.

“This is a most well-deserved award for Howard in recognition of his advising excellence,” said Dairy and Food Science Department Head Vikram Mistry. “He spends a lot of time with students to personalize their advising and to be sure they are on track, and he understands the curriculum exceptionally well. Howard is an outstanding instructor as well and is an asset not just for the department, but also for our college.”

NACADA promotes and supports quality academic advising in institutions of higher education to enhance the educational development of students.

*Andrea Schubloom*



## LLOYD METZGER WINS 2019 NATIONAL DAIRY MANUFACTURING TEACHING AWARD

Lloyd Metzger, South Dakota State University Alfred Chair and professor of dairy and food science, received the International Dairy Food Association Award for Teaching in Dairy

Manufacturing June 24 at the national meeting of the American Dairy Science Association in Cincinnati. The award recognizes excellence in teaching and draws nominations from around the world.

“Metzger’s vibrant research coupled with his practical experience makes him a dynamic and effective instructor, providing students with a unique learning experience,” said Vikram Mistry, department head of dairy and food science. “His teaching approaches prepare students for successful careers in the dairy processing industry.”

Metzger received his bachelor’s and master’s degrees in dairy manufacturing from South Dakota State University and a doctorate in food science from Cornell University. Following

positions as a research scientist at General Mills and a faculty member at the University of Minnesota, he returned to SDSU as a faculty member in the dairy and food science department and holder of the Alfred Chair in Dairy Education in 2007. He received promotion to professor in 2012.

Metzger teaches or co-teaches several undergraduate courses including Dairy Product Processing I, Dairy Products Judging, Advanced Dairy Products Judging, Dairy Product and Process Development, and Laboratory Techniques in Dairy Science. As coach of the SDSU Dairy Products Judging Team, he has guided his students to seven national championships since 2011. Metzger also has a prolific research program in dairy manufacturing through which he mentors graduate students. He is the director of the Midwest Dairy Foods Research Center, which sponsors dairy research through check-off funds from dairy farmers at SDSU, the University of Minnesota and Iowa State University.

Last year Sanjeev Anand, professor in the Dairy and Food Science Department, received the award.

*Nicole Hudson*



# FACULTY, STAFF AND STUDENTS IN THE DAIRY AND FOOD SCIENCE DEPARTMENT RECEIVE NATIONAL HONORS

The South Dakota State University Dairy and Food Science Department was well-represented by faculty, staff and students at the American Dairy Science Association (ADSA) conference and the Institute of Food Technologists Annual Event and Food Expo (IFT).

The 2019 annual meeting of the ADSA took place in Cincinnati, Ohio. Almost 1,900 dairy foods and production specialists from around the globe were in attendance. IFT was held in New Orleans, La., and attendees included over 17,000 professionals in food science and related disciplines from over 90 countries.

## American Dairy Science Association

Lloyd Metzger, Alfred Chair and professor, received the International Dairy Food Association Award for Teaching in Dairy Manufacturing. The award recognizes excellence in teaching and draws nominations from around the world.

Isaac Salfer, new faculty member in the department, received two awards for his doctoral work at Pennsylvania State University. He received the Alltech Graduate Student Paper Publication Award and the National Milk Producers Federation Richard M. Hoyt Award.

At ADSA, the department presented 50 papers and posters demonstrating results of research done over the past year. Of the 50 papers, 38 of the presentations were based on the work of graduate students. Among these students were Pratihtha Verma, Nancy Awasti, Jae Young Sim, Ahmed Hammam, Shayanti Minj, Chelsea Schossow, Nathaly Carpinelli, Khalid Alsalem, Shouyun Cheng, Michaela Della, Maryam Enteshari, Leyby Guifarro, Neha Singh and Fernanda Rosa.

In addition to student presentations, Johan Osorio, assistant professor; Lloyd Metzger, Alfred Chair and professor; and Maristela Rovai, assistant professor and SDSU Extension dairy specialist; were invited to give presentations at symposia sessions.

Jill Anderson, associate professor, Osorio, and Sanjeev Anand, professor; also served as chairs of scientific sessions at this year's conference. Prior to the meeting, Rovai and Mistry were among the faculty members who reviewed abstracts. Anand and Metzger served on program committees as well.

Faculty members also participated in several other events including the ADSA Foundation meeting and the Journal of Dairy Science Editorial Board meeting, and Division Meeting.

The "Dairy Digest," an annual publication of the SDSU Dairy Club, received first place in the yearbook contest of the Student Affiliate Division of ADSA. Abigail Hopp served as the chief editor of the digest along with contributions from other club members.

The department hosted an alumni reception where nearly 60 attendees from around the country enjoyed refreshments and conversation.

## Institute of Food Technologists Annual Event and Food Expo

Graduate student and research fellow in the food science program at South Dakota State University, Bipin Rajpurohit received second place in the quality assurance division of the graduate poster competition out of over 100 abstracts

submitted at the 2019 Institute of Food Technologists Annual Event and Food Expo.

Of the over 100 submitted abstracts, four were selected for the final competition. Rajpurohit's poster is titled, "Developing Simple and Rapid Methods to Evaluate Bread Baking Quality of Wheat Flours."

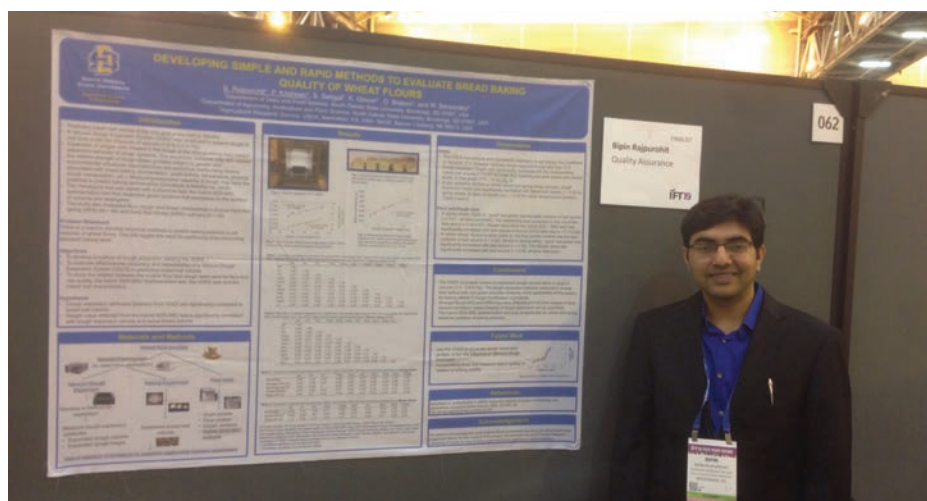
Rajpurohit's research developed and evaluated simple and rapid methods to predict baking potential of wheat flours, which would negate the need for performing time-consuming standard baking tests.

Food science graduate student Tanvee Deshpande also participated in the graduate poster competition, and Padmanaban Krishnan, professor in the Dairy and Food Science Department, presented three posters about his research.

Several other undergraduate and graduate students in the Dairy and Food Science Department attended the conference and had the opportunity to learn from educational sessions and network with industry professionals.

*Nicole Hudson*

**Below:** Bipin Rajpurohit received second place in the quality assurance division of the graduate poster competition at the Institute of Food Technologists Annual Event and Food Expo.



## DAIRY CATTLE JUDGING

From weekly practices to trips across the country, the SDSU Dairy Cattle Judging Teams were hard at work this past year. Between two teams, the students traveled to Harrisburg, Pa., for the All-American Dairy Show; Madison, Wis., for World Dairy Expo; Fort Worth, Texas for the Fort Worth Stock Show; Louisville, Ky., for the North American International Livestock Exhibition; and Viroqua, Wis., for the Accelerated Genetics/Select Sires Contest.

The year started in September with the senior team comprised of Abigail Hopp, Katelyn Groetsch, Kyle Tews and Dennisen Nelson competing in the Invitational Youth Dairy Cattle Judging contest at the All-American Dairy Show. The team placed 13th overall and was coached by Michaela Della. The same weekend, the junior team comprised of Brooke Engstrom, Ashley Maus, Colton Carlson and Jenny Thill competed in the Accelerated Genetics/Select Sires

Intercollegiate contest. The team placed 10th in reasons and 14th overall. Jill Anderson, associate professor in the Dairy and Food Science Department, coached the team.

Following these contests, the senior team traveled to the World Dairy Expo to participate in the Intercollegiate National Contest. The team placed first in Brown Swiss and 14th overall. Hopp also placed first in Brown Swiss, 12th in Jersey and 24th overall, receiving an All-American Dairy Judge award for placing in the top 25. Nelson was 15th overall.

In November, a team comprised of Abigail Hopp, Brooke Engstrom and Ashley Maus placed 15th at the North American International Livestock Exhibition contest. The team was coached by Della and Anderson.

In January, the new year started off with a contest at the Fort Worth Stock



**Pictured (from left):** Michaela Della (assistant coach), Abigail Hopp, Dennisen Nelson, Kyle Tews, Katelyn Groetsch and Jill Anderson (coach).

Show. Two teams competed, comprised of Brooke Engstrom, Ashley Maus, Rebecka Hoffman, Andrew Wilwerding, Morgan Kohl and Margaret Socha.

*Abby Hopp*



Students on the SDSU Dairy Challenge Team participated in the 2019 North American Intercollegiate Dairy Challenge Academy held March 28-30 in Tifton, Ga. Students representing 36 universities from 29 states and Canadian provinces traveled to Georgia for the 18th Annual Dairy Challenge.

The SDSU team consisted of Abby Hopp, Calissa Lubben, Jenna Van Wyk, Brooke Engstrom, Alexandra Preszler and Josie Kindwall. The team was coached by Dani Tews, assistant manager of the Dairy Research and Training Facility, and Johan

## DAIRY CHALLENGE

**Pictured (from left):** Johan Osorio (coach), Jenna Van Wyk, Abigail Hopp, Alexandra Preszler. Not pictured: Brooke Engstrom, Josie Kindwall and Calissa Lubben.

Osorio, assistant professor. The Dairy Challenge Academy runs in conjunction with the National Dairy Challenge contest and the main objectives are to provide dairy education and networking for four-year dairy programs as well as to further engage university and industry professionals in teaching contemporary dairy issues.

The event began at local dairies where students learned from industry experts on milking protocols, feed center management, cow comfort and other areas related to dairy management. Later that day, students received training on software and financial analysis of dairy farms followed by the distribution of assigned farm materials and data.

The following day, students performed an on-farm analysis having just two hours to visit their assigned dairy farm and witness its operations. After the farm visits, students were able to interact with farm owners and advisors to develop specific recommendations on the areas they thought the dairy should focus on to produce the greatest improvements in profit margins. On the final day, students presented their farm evaluations and conclusions to the judging panel and then fielded questions from the judges. The evening concluded with a reception and awards banquet.

Earlier in the year, the team also participated in the 15th Midwest Regional Dairy Challenge held in Freeport, Ill. In total, 97 students from 19 schools across the Midwest attended the event. The SDSU team consisted of Brooke Engstrom, Abby Hopp, Alexandra Preszler and Jenna Van Wyk. Osorio was the coach.

## DAIRY PRODUCTS JUDGING TEAM PLACES SECOND AT NATIONAL CONTEST AND FIRST AT REGIONAL CONTEST

South Dakota State University's Dairy Products Judging Team placed second in All Products at the 2019 Collegiate Dairy Products Evaluation Contest held April 17 in Madison, Wis. A total of 55 undergraduate and graduate contestants from 15 U.S. universities participated in the contest.

"Our students are outstanding and will be very effective professionals in the industry in the future," said Vikram Mistry, Dairy and Food Science Department Head. "The team members include majors in dairy manufacturing, dairy production and food science, which reinforces the farm-to-table characteristic of the department and will give these participants an edge in their future careers."

In dairy products judging, students evaluate the appearance, texture and flavor of six dairy products including milk, butter, Cheddar cheese, ice cream, yogurt and cottage cheese. By taking part in the judging contests, students learn how to determine if products have quality defects. Members of the judging team often obtain a position in quality control or manufacturing and they use their product judging skills to identify issues and

improve the quality of dairy products.

SDSU team members are Erika Franzen-Ackerman, Fredericksburg, Iowa; Han Si, Tianjin, China; Madison Okerstrom, Shafer, Minn.; Sanne de Bruijn, Viksburg, Minn.; and Mohamed Elfaruk, Masallatah, Libya. The team is coached by Lloyd Metzger, professor of dairy science and Alfred Chair in dairy education, and Ahmed Hammam, graduate student.

The team placed first in butter, Cheddar cheese and ice cream, second in milk, third in yogurt and eighth in cottage cheese. De Bruijn placed eighth overall and fifth in Cheddar cheese. Okerstrom placed 10th overall and first in Cheddar cheese and ice cream. Si placed 11th overall and third in butter and ice cream. Franzen-Ackerman placed 13th overall and fifth in butter. In the graduate student contest, Elfaruk placed second overall, third in cottage cheese and fourth in butter, ice cream, milk and yogurt.

The contest was hosted by the Wisconsin Cheese Makers Association and was sponsored by the U.S. Department of Agriculture and more than 35 dairy associations, companies and suppliers.

Additionally, the team placed first in All Products at the 2019 Midwest Regional

Collegiate Dairy Products Judging Contest held April 6 in Coopersville, Mich. The team also placed first in Cheddar cheese, butter, cottage cheese and yogurt. A total of 32 undergraduate and graduate contestants from nine universities participated in the contest.

At the regional contest, Franzen-Ackerman placed first overall and first in butter, yogurt and cottage cheese. De Bruijn placed second overall and second in milk, Cheddar cheese and cottage cheese. In the graduate student contest, Elfaruk placed first overall and first in milk, Cheddar cheese and cottage cheese.

The contest was hosted by Continental Dairy Facilities and sponsored by more than 20 dairy companies and suppliers.

SDSU has a long history at the contest and has won the national championship eight out of the last 10 years and 24 times in the 97-year history of the contest.

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**Pictured (from left):** Ahmed Hammam, assistant coach; Mohamed Elfaruk, graduate student; Madison Okerstrom; Han Si; Sanne de Bruijn; Erika Franzen-Ackerman; and Lloyd Metzger, coach.





## GRADUATE STUDENT RECEIVES LOCAL WILDLIFE SOCIETY CHAPTER AWARD

Austin Wieseler, who is pursuing a master's degree in the South Dakota State University Department of Natural Resource Management, received the 2019 Outstanding M.S. Graduate Student Award from the South Dakota chapter of The Wildlife Society. The award recognizes students who demonstrate excellence in the study of wildlife ecology and management.

The St. Helena, Neb., native has been doing research on bighorn sheep in Badlands National Park under the supervision of Distinguished Professor Jonathan Jenks of the SDSU Department of Natural Resource Management. The three-year National Park Service study involves monitoring survival and mortality in adult and yearling sheep, as well as lambs.

The Wildlife Society, an international, nonprofit scientific and educational organization, seeks to enhance scientific, technical, managerial and educational capabilities and achievements of wildlife professionals.

"I am excited and honored to receive this award. This is definitely a highlight of my career at South Dakota State," said Wieseler. He is the son of Brad and Diane Wieseler and a 2012 graduate of Wynot Public High School in Wynot, Neb.

Wieseler is the third SDSU student working on bighorn research with Jenks to receive the graduate student award. Tyler Garwood got the master's student award last year and Brandi Felts received the doctoral student award in 2017.

Jenks, who nominated Wieseler, said, "I view what Austin's accomplished as significant. He is a self-starter and is able to make connections with students and other wildlife professionals. He brings what he has learned at SDSU to the table and is very knowledgeable about bighorn sheep ecology and management."

During his junior year, Wieseler began working with bighorn sheep as a research technician at the Department of Natural Resource Management's Wildlife Research Facility. After completing his bachelor's degree, he worked for the South Dakota Game, Fish and Parks from May 2016 until February 2017, when the Badlands research project began.

"It's hard work, but very rewarding," said Wieseler. In 2017, he collared 23 lambs and recorded a 74 percent survival rate through six months of age. By May 2018, Wieseler had collared 30 lambs.

When a collared lamb dies, the researchers quickly determine the cause, whether it's predation, abandonment or

**Left:** Austin Wieseler, left, organizes blood serum samples as part of disease testing the Badlands bighorn sheep herd through a grant from the National Park Service.

**Top Right:** The collar on this 12-week-old lamb will emit a high frequency mortality signal if the animal is inactive for more than eight hours. That then allows the researchers to track its location and determine the cause of death.

**Bottom Right:** Austin Wieseler, left, takes a nasal swab sample.

simply falling into a crevice, he explained. "The goal is to get them to a year old."

Though the researchers are looking at a broad spectrum of diseases, one of their biggest concerns is *Mycoplasma ovipneumoniae*, a pneumonia-causing pathogen that has devastated other bighorn sheep herds, including those in Custer State Park and Rapid City.

"This disease affects bighorn sheep throughout the western United States," said National Park Service Wildlife Biologist Eddie Childers, who manages the north unit of the Badlands bighorn sheep herd. "This is one of the largest populations in the state of South Dakota—and the healthiest. Austin's work is crucial to protecting the herd's health."

*Christie Delfanian*



## CAROL JOHNSTON RETIRES AFTER 16 YEARS OF DEDICATED WORK IN NATURAL RESOURCES

Since 2003, Carol Johnston has been an essential part of the College of Agriculture, Food and Environmental Sciences at South Dakota State University.

“I came to SDSU because I wanted more of a professorship,” Johnston says. “I wanted to have an impact on students.”

Johnston first came to SDSU to work with the Experimental Program to Stimulate Competitive Research (EPSCoR). However, when the EPSCoR funded “Center for Bio Complexity Studies” was discontinued in 2006, she remained at SDSU and became a professor in the Department of Biology and Microbiology. She moved into the Department of Natural Resource Management when it was formed in 2011.

At SDSU, Johnston has taught Introduction to Environmental Science, Ecosystem Ecology, Integrated Natural Resource Management and Wetland Ecology & Management.

Johnston graduated from Cornell University with a bachelor’s degree in natural resources. At Cornell University, she worked as an air photo interpreter from 1973 to 1975.

“As an air photo interpreter, I mapped wetlands for the New York State Wetlands Inventory under a contract with the New York State Department of Environmental Conservation,” Johnston says.

Following her work at Cornell University, Johnston started as a graduate student at the University of Wisconsin-Madison. She graduated with a master’s degree in both land resources and soil science and went on to get a doctorate degree in soil science.

Following the completion of a doctorate degree, Johnston began her 18-year work in Duluth, Minn. as a senior research associate at the Natural Resources Research Institute.

Johnston notes the environment has been important to her from the time she was a child. Although she grew up in a suburb, she still found a way to explore.

“There was a vacant lot behind my house that I loved to explore as a kid,” Johnston says. “I did my first experiment there. I looked at the pond and sampled tadpoles to see if they changed into frogs.” This experiment was just the start of her long-term career in research.

In 2014, Johnston received a National Science Foundation OPUS grant. This grant gave her the summer salary to work on a book, “Beavers: Boreal Ecosystem Engineers.”

“The book looks deep into the research I did on beavers over the years,” Johnston explains. “It looks at beavers and how they affect the environment.”

Through large grants, Johnston was able to conduct research on wetlands throughout the Great Lakes, analyze how wetland plants are indicators of wetland activity, find indicators used in the future to determine if wetlands are in good condition and much more.

“My research has been helpful in using real life examples in my classrooms,” Johnston says.

Johnston’s leadership extended beyond the university, as she was the first female to serve as National President of the Society of Wetland Scientists, served on the Water Science and Technology Board in Washington D.C. for six

years and the Environmental Protection Agency Science Advisory Board for five years.

Throughout her career, Johnston has traveled both nationally and internationally, including to Finland, Sweden and many other European countries.

In addition to the multiple articles and books she has written, Johnston is continuing to publish.

After retirement, Emeritus Professor Johnston hopes to spend more time with her two grandchildren, travel and explore her genealogy in New York and move back to Duluth, Minn.

*Abby Hopp*

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**Below:** Carol Johnston (left) and members of her Wetland Ecology & Management class examine a wetland water control structure near Brookings.



## NELS TROELSTRUP RETIRES AFTER 26 YEARS OF SHARING PASSION FOR NATURAL RESOURCES

Interest in water quality, ecology and aquatic invertebrates drives the work of Nels Troelstrup. As assistant department head in the Natural Resource Management Department at South Dakota State University, his fascinating career showcases his dedication to his students and to his profession.

Troelstrup recently retired from his position after 26 years. His work earned him the title of Professor Emeritus of Ecology in recognition of his service and scholarship. As the founding director of the Oak Lake Field Station near Astoria, he developed ongoing learning opportunities through the Field Station and through the biological monitoring tools he developed to support management of lakes and streams. The state of South Dakota has adopted tools developed in Troelstrup's lab and provided ongoing support to enhance and adapt the tools for different regions of the state.

"I am trained as a freshwater ecologist, so I really enjoy working with all plants and animals which live in freshwater. However, I am most fond of aquatic invertebrates. Invertebrates in general contribute most of the biodiversity on the planet. They are critical in the food chain, provide important ecosystem services which benefit people and serve as excellent indicators of ecosystem health."

Troelstrup grew up on a cattle ranch in western Nebraska, where wheat fields stretched 3 miles long and 2 miles wide. He spent hours on a horse working cattle and on a tractor drilling wheat. He noticed the diversity of the land and how that varied, going from gravel on the upland to different soil types in low spots. He watched how the seed responded when it rained. He wondered about the fascinating world around him and the interaction between water and the sometimes invisible life forms.

Hired to teach introduction to biology at SDSU in 1993, his position in the department included developing the Oak Lake Field Station into a hands-on

learning center where his ideas stretched far beyond classrooms.

He shared it was a challenge. "I started as the first official director in 1993. The site was not set up to do what the University envisioned. There were no classrooms, no lab. The Girl Scouts used the site as a camp in the summer. There was a lot of space but it was not conducive to research and hands-on experiences."

From the beginning, the 570 acres of grassland, oak forest, wetlands and lake environments which offered exciting potential to provide learning and research opportunities for students interested in the management of natural resources.

Through the years Troelstrup's efforts molded the site into a location which attracts those interested in university instruction and research. A committee established by then SDSU president Robert Wagner developed a strategic plan for the station, outlining the ideas and providing the directions for the future, with the site becoming part of the South Dakota Agricultural Experiment Station at SDSU system.

Troelstrup worked to transform the site into a biological field station with links to the National Science Foundation. Grants from the NSF helped develop the site, including funds for a classroom building. The structure provided space for regular-sized classes, established Internet access and developed lab facilities. It was a game-changer as they could examine specimens in the research lab on site. It changed the demographic from private use to an almost entirely campus use. The station also became a destination for students and researchers from other institutions, including the University of Oklahoma, Oklahoma State University, University of Texas and the University of Minnesota.



Several endowments were established, providing ongoing support for facilities maintenance and undergraduate research projects.

"It's a constant work in progress," Troelstrup said. "The area will continue to develop and to provide access and the capability to enjoy the outdoor resources hands-on."

Troelstrup noted the facility is a great recruitment tool for the university, providing youth education through 4-H Horse Camps, public school functions and the annual Natural Resources Camp. The staff designs certain classes to be taught at the station. Sometimes the lectures on campus are followed by labs at Oak Lake. Several courses have been designed specifically to take advantage of the station's resources to provide hands-on, experiential opportunities in the field. The remote location makes it ideal for retreats for college personnel plus state and federal agencies.

During his career, Troelstrup taught classes in limnology, (the study of the

biological, chemical, and physical features of lakes and other bodies of fresh water), freshwater monitoring and assessment, freshwater invertebrate ecology and laws and policies in natural resource management.

“In truth, all of my classes are my favorites to teach,” he said. “The most rewarding teaching experiences I’ve had occurred while teaching introductory biology for non-majors. I worked with intro biology for over ten years. Biology for non-majors is a challenge to teach. Not only is it a large course, most students take that course to meet a general education requirement—most are not science majors. I always found it very rewarding when students came out of that class liking biology, even wanting to switch their major.”

All natural resource majors take NRM 230 Field Techniques. Taken after their

freshman year, these summer sessions introduce students to techniques integral to their profession. Students stay at the Oak Lake Field Station for a week at a time, learning from and living in their surroundings. They learn how to net birds, how to trap mammals, how to take a water sample, and how to collect fish. The learning experience also includes safety training. Focusing on natural resources at Oak Lake, classes during the summer enhance learning. It’s hard to replicate that during the academic year. These skills provide a solid basis as the students take on internships.

Feedback from employers and the advisory group shows these experiences pay off. Learning skills that will be necessary parts of potential future careers provides valuable experience for the students. The field-based activities are part of their curriculum and make them

more marketable compared to those who take classes online or get the concepts through book learning.

“We have research at the station focused on freshwater ecology, pollinators, biofuels, invasive species management, use of fire for weed control plus many others. We accommodate areas directed at training those who work with natural resources. We work with agencies and private consulting firms to develop the technical skills needed in employees.”

### **Captivating collection**

Developing and overseeing the South Dakota Aquatic Invertebrate collection served as an important component of Troelstrup’s position. Providing insight into biodiversity, the unique collection includes 40,000

to 45,000 specimens from all over the state.

Troelstrup says invertebrates provide most of the biodiversity on the planet. Thus, it’s important to understand what exists, where it is and how it’s changing over time. He explained that the specimens in the South Dakota Aquatic Invertebrate collection are invaluable when seeking to understand water resources. He sees a need to monitor streams and lakes for these organisms to evaluate changes.

“I am an invertebrate ecologist. This collection allows students to study the species and makes students aware of what is present in the state’s waters. There were whole groups we knew nothing about. This includes freshwater clams. In the early 1900s, they were harvested in the James River and were highly sought for their commercial value in making buttons. Some of them are among the most endangered species in the world.”

Department head Michele R. Dudash said, “Dr. Troelstrup has been a valuable member of the Natural Resource Management Department. Throughout Dr. Troelstrup’s career at SDSU he has readily served in administrative posts beyond his other duties. The many contributions that Nels has made to the department in terms of his scientific expertise addressing the teaching, service, and research mission of SDSU will be sorely missed.”

As his time at SDSU draws to a close, Troelstrup reflects on his experience. “I’ve worked with a lot of good people. I’ve had opportunities to grow and to learn new things. I think the research and teaching we did together helped make the state a better place. I really thank my colleagues and all the excellent staff at SDSU for that. However, the most important thing I walk away with is my experience working with the students. I’ll really miss them, especially the times we had learning together at the field station.”

*Connie Groop*



## NATURAL RESOURCE LAW ENFORCEMENT CLUB PROVIDES STUDENTS WITH UNIQUE OPPORTUNITIES

The Natural Resource Law Enforcement Club recently became a certified club at South Dakota State University. The club focuses on networking, professional development, resume building, and hands-on training pertaining to natural resource law enforcement.

Though the club has only been together for about a year, the club already has over 20 members. The members come from the wildlife and fisheries major as well as the natural resource law enforcement major.

During the meetings, club members enjoy a homecooked meal while they work on professional development. The club brings in speakers and law enforcement training from outside sources to teach members about scenarios they may encounter in their future careers. They learn skills such as proper search and seizure techniques, how to apply for warrants and how to carry them out properly. Members also watch videos of law enforcement officers interacting with

the public to learn proper procedures. Meetings also provide members with networking opportunities.

“They are really good, motivated and focused students,” said Don McCrea, advisor of the Natural Resource Law Enforcement Club, “They very clearly understand how their involvement in clubs and activities now affects their professional development.”

Along with being the advisor to the club, McCrea is the academic program coordinator and lead instructor of the natural resource law enforcement major. After graduating from SDSU in 1981 with a wildlife and fisheries major, McCrea worked for the South Dakota Game Fish and Parks Department for 30 years. While working for the South Dakota Game Fish and Parks, he held several positions including conservation officer, wildlife biologist and conservation officer supervisor. After he retired from the South Dakota Game Fish and Parks in 2008, McCrea

worked in Pierre, S.D. as a staff instructor for the State Police for 10 years. McCrea also owns his own national law enforcement training company and has authored five books during his career.

“Don is a really motivational guy,” said Daniel Fraser, senior natural resource law enforcement student and the club’s social media liaison. “He brings so much experience to the table. He really cares about the students.”

The club is looking to expand and get more active during the 2019-2020 school year. They are hoping to gain members across a variety of majors. The club also hopes to bring in speakers as well as new activities such as reenactments with South Dakota Conservation Officers. It also hopes to find recreational activities they can participate in to increase their involvement in the community.

Nicole Hudson

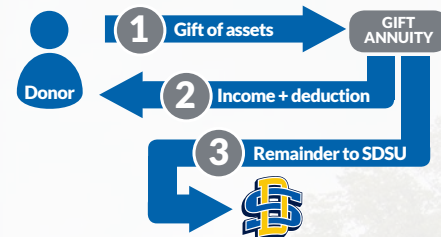


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## SOUTH DAKOTA STATE UNIVERSITY RECEIVES APPROVAL TO PLAN PROFESSIONAL PROGRAM IN VETERINARY MEDICINE WITH THE UNIVERSITY OF MINNESOTA



South Dakota Gov. Kristi Noem recently signed a bill allowing South Dakota State University and University of Minnesota administrators to plan a Professional Program in Veterinary Medicine.

The two institutions are finalizing an operating agreement that will allow students to complete the first two years of veterinary courses at South Dakota State, and the final two years at UMN's College of Veterinary Medicine in St. Paul. The first 20-student cohort would begin classes on the SDSU campus in Brookings in August, 2021.

The new collaborative program will help address a shortage of veterinarians, create additional opportunities for South Dakota students to pursue veterinary careers, supports a growing agriculture industry in the region, and addresses the concern of student debt in veterinary education. Students participating in the new program would pay tuition and fees based on in-state rates, realizing an anticipated

savings approaching \$100,000 per student for their veterinary education, according to John Killefer, South Dakota Corn Endowed Dean of the College of Agriculture Food and Environmental Sciences.

"Land-grant universities serve states and regions through academic programs, research and outreach, and this professional degree certainly addresses the need for more veterinarians in South Dakota and adjoining states, particularly those who work with food animals," Killefer says. "As dean, I look forward to working with faculty at both universities to implement a veterinary medicine curriculum that will complement several existing programs and research strengths within the SDSU College of Agriculture, Food and Environmental Sciences."

The Professional Program in Veterinary Medicine will replace a program, in place since 1993, under which the state of South Dakota has provided funding to buy

down Iowa State University tuition for six students each year to reflect the difference between out-of-state and in-state tuition. The program will remain in-place until current South Dakota students attending Iowa State University have completed their training in 2023.

"This new program makes sense for students, for the agricultural industry across South Dakota and Minnesota, and for both universities," says Dennis Hedge, South Dakota State University provost and vice president for academic affairs. "Most notably, faculty and administrators have created a financial model that reduces the costs of education for veterinary medicine students, many of whom pay full out-of-state tuition rates and fees to complete their doctor of veterinary medicine (DVM) degrees at accredited veterinary colleges."



Olivia Mellgren (left) with Rebecca Bott-Knutson, dean of the Van D. and Barbara B. Fishback Honors College.



Ashley Wagner Herrboldt is a veterinarian at the Tyndall Veterinary Clinic.

## SO YOU WANT TO BE A *Veterinarian?*

**S**outh Dakota State University's pre-veterinary program is the first step for many students with dreams of becoming veterinarians. The South Dakota Animal Disease Research and Diagnostic Laboratory on campus and the livestock units located near campus provide hands-on, real-world experiences for pre-vet students. Several SDSU alumni give an inside look at the unique opportunities they had in the pre-veterinary program and how it set them up to succeed in vet school and as practicing veterinarians.

### Olivia Mellgren

Olivia Mellgren is currently a veterinary student at the University of Minnesota College of Veterinary Medicine with plans to graduate in 2020. Originally from Jordan, Minn., she graduated from SDSU in December of 2015 with animal science and biology majors and a pre-veterinary specialization.

"I truly believe I got the best education in the world at SDSU," Mellgren stated. "The coursework and hands-on learning opportunities I had in the animal science program really prepared me well for veterinary school."

Mellgren credits the animal science program at SDSU for granting her an understanding of all aspects of livestock production, from science to reproduction to nutrition.

"The classes were so interactive and I gained a wide variety of skills through the

real-world learning experiences we had in class," she said.

While a student, she took advantage of the opportunity to work on the necropsy floor in the South Dakota Animal Disease Research and Diagnostic Laboratory located on campus.

"Working on the necropsy floor really enhanced what I was learning in the classroom and took it a step further," Mellgren said.

She also participated in undergraduate research in equine immunology to further her education. "Getting involved with research was really eye-opening and helped me build a great network on campus," Mellgren explained.

During summers and Christmas breaks, Mellgren spent many hours shadowing in veterinary clinics and riding along with veterinarians to get a wide variety of real-world experiences.

When asked her advice for students pursuing careers as veterinarians, Mellgren said, "My advice to students is to build your network early; undergraduate research is a great way to do that, along with getting involved in student clubs and organizations. Also, doing many hours of shadowing is really important for getting accepted into veterinary school."

### Ashley Wagner Herrboldt

Ashley Wagner Herrboldt graduated from the Iowa State University College of Veterinary Medicine in spring of 2018 and

started working at the Tyndall Veterinary Clinic in Tyndall, S.D. shortly after. Originally from Montrose, S.D., she graduated from SDSU with an animal science degree and a pre-veterinary specialization.

Wagner Herrboldt credits the opportunities she had to frequently work with live animals in the classes at SDSU for providing her with a solid foundation and helping her be successful.

"Getting to work with many different livestock species in classes helped me learn how to safely handle them and feel comfortable working around them," Wagner Herrboldt said.

She recalled one of the hardest but most rewarding classes being animal reproduction, in which she had opportunities to palpate cows and look at reproductive tracts, something she now uses everyday as a practicing veterinarian.

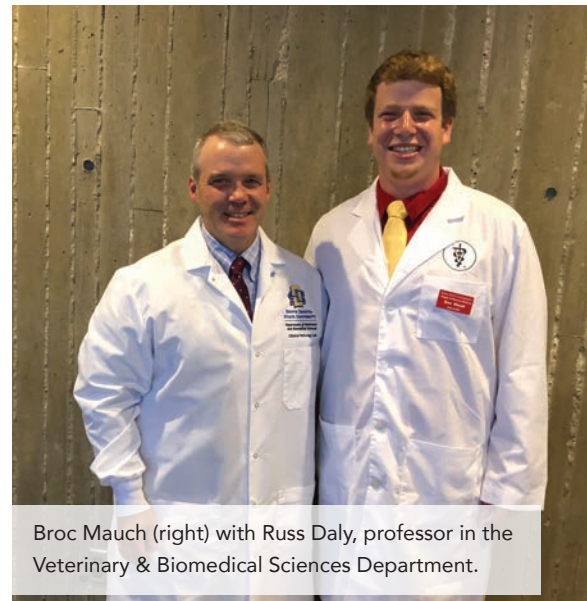
"My professors at SDSU had connections with many practicing veterinarians and were eager to help me find veterinarians to shadow while I was getting my undergraduate degree," Wagner Herrboldt said.

She credits a couple professors for significantly impacting her time at SDSU.

"Russ Daly prepared me for what being a veterinarian would really be like and he had a lot of real-life experiences to share," Wagner Herrboldt said. "Bob Thaler was also very supportive and helped me get in contact with veterinarians to shadow."



Ashley Reiner (right) tagging cattle during class with the help of SDSU professor Rosie Nold.



Broc Mauch (right) with Russ Daly, professor in the Veterinary & Biomedical Sciences Department.

She has seen that SDSU has a good reputation in the veterinary community.

“A lot of my professors at Iowa State said the students from SDSU are always well-prepared for vet school,” Wagner Herrboldt said.

When asked for her advice to students hoping to be veterinarians, she said to make connections with professors, work hard in classes and put in the hours to shadow vets.

### Broc Mauch

Broc Mauch graduated from SDSU in May 2018 with a degree in animal science and a pre-veterinary specialization. Now a second-year student at Iowa State University College of Veterinary Medicine, he credits his time at SDSU for giving him the tools needed to succeed.

“As far as depth of material, I think the SDSU classes served me a lot better than some of the students coming from other universities,” he said.

In addition to his regular animal science curriculum, Mauch pursued graduation from the Honors College at SDSU. Part of the requirements for honors distinction include an independent research project, which Mauch said gave him an edge when applying to veterinary school. Mauch compared the effectiveness of two dewormers used in cattle for his research project.

“I would say even if you don’t have a requirement for undergraduate research, maybe try getting into a research setting and looking into faculty that have research positions available,” he said.

He was also involved in FarmHouse Fraternity, Little International, Horse Club and Animal Science Academic Quadrathlon.

Mauch explained the relationships built with faculty at SDSU are among the most valuable benefits gained during his years there. He said the connections came in handy when he needed recommendations for his veterinary school application.

“[I had] half of my recommendations come from faculty at SDSU,” he said. “I wouldn’t have been able to do that if I hadn’t taken those extra steps in undergrad.”

Mauch plans to graduate in 2022 with a Doctor of Veterinary Medicine (DVM) and return to South Dakota to practice as a veterinarian.

### Ashley Reiner

Graduating from SDSU this spring with an animal science degree and pre-veterinary specialization, Ashley Reiner is planning to attend the Iowa State University College of Veterinary Medicine in the fall. The Hutchinson, Minn. native began pursuing her dream of being a veterinarian her freshman year of high school by shadowing a local vet and said SDSU helped make that dream become a reality.

“I decided on SDSU because I knew it had one of the best pre-vet training programs in the country,” Reiner said.

Reiner explained that the animal science courses expose students to all aspects of both large and small animal care.

“We get so much amazing hands-on learning as part of the curriculum,” Reiner

stated. “In classes I had done everything from live animal and carcass evaluation, to AI-ing and ultrasounding several species, to shearing sheep.”

Reiner has taken advantage of many more opportunities to prepare herself to be a vet. She worked at the SDSU Cow-Calf Education and Research Facility and in SDSU Extension Beef Production Management Specialist George Perry’s research lab. She also conducted her own research project with Perry, in which she worked with local producers and focused on the effects dewormer has on in vitro calves in treated cows and evaluated the calves’ performances throughout their lives.

“I learned that I really enjoy research and I now have a better understanding of the entire animal and how all aspects function as a whole,” Reiner said.

Throughout her time as a student, Reiner continued shadowing vets to get as much experience as possible before applying for vet school. She also took advantage of internship opportunities, serving as an intern for Minnesota 4-H and a production intern for Pipestone Systems.

Reiner was also involved in Pre-Vet Club, Little International, Sigma Alpha professional sorority and Alpha Zeta professional fraternity.

“I wanted to take advantage of a wide variety of opportunities during my undergraduate career to gain a broad skill set and to be a more well-rounded individual,” Reiner said.

*Katie Berndt & Sydney Meyer*



## PRE-VET STUDENTS ACCEPTED TO VETERINARY SCHOOLS FOR FALL 2019

The South Dakota Veterinary Medical Association (SDVMA) and SDSU partnered to honor 14 SDSU students who have been accepted to veterinary schools for fall 2019. The ceremony was held on Friday, April 26 in the Hobo Day gallery of the SDSU student union. The students, all of whom completed their pre-veterinary coursework at SDSU, were presented 3M Littmann Cardiology IV stethoscopes courtesy of the SDSU Veterinary and Biomedical Sciences Department and the SDVMA. Each blue-tubed stethoscope was personalized with the student's name and an SDSU insignia, and was presented to each student by a faculty member, staff member or veterinarian who played a special role in their education while at SDSU.

**BACK ROW LEFT TO RIGHT:**  
**Natasha Bettin - Lake View, IA**  
 Attending Iowa State University

**Mckayla White - Brownton, MN**  
 Attending Iowa State University

**Amanda Farr - Hartford, SD**  
 Attending Iowa State University

**Meredith Rigmaiden - Rapid City, SD**  
 Attending Iowa State University

**Lindsay Miller - Brownton, MN**  
 Attending University of Minnesota

**Ellys Johnson - Mahtomedi, MN**  
 Attending Iowa State University

**Tanner Baustian - Luverne, MN**  
 Attending University of Wisconsin

**Alexandra Preszler - Roscoe, SD**  
 Attending Iowa State University

**Andrea Strong - Honey Creek, IA**  
 Attending Iowa State University

**FRONT ROW LEFT TO RIGHT:**  
**Ashley Reiner - Hutchinson, MN**  
 Attending Iowa State University

**Marissa Bergsens - Glencoe, MN**  
 Attending St. Matthew's University

**Hannah Evans - Firth, NE**  
 Attending University of Nebraska/Iowa State University

**Alaine Buysse - Minneota, MN**  
 Attending Ross University

**Madisen Payne - Jefferson, SD**  
 Attending Iowa State University

# ALUMNUS COLIN WEGNER RECOGNIZED BY PRESIDENT TRUMP FOR RECEIVING TOP NATIONAL FFA AWARD



Among his many successes in FFA, including the achievement of his all-time highest goal of becoming an American Star Award finalist, Colin Wegner, South Dakota State University Agronomy, Horticulture and Plant Science alumnus, says being recognized by President Donald Trump was hands-down the number one highlight of his involvement in FFA.

Ten minutes before leaving National FFA Convention in Indianapolis in October 2018, Wegner was pulled aside along with three other American Stars. The American Star Award is the highest award an FFA member can achieve. Informed that President Trump wanted to

recognize these award recipients during his remarks at the 91st Annual Convention, Wegner cancelled his initial plans for departure. President Trump introduced each winner of this top national honor, shaking their hands as he invited them to join him on stage.

“This is the craziest thing,” Wegner says he was thinking in the moment. “Standing up there looking at the back of his head, I kept wondering, how did I get in this position?”

Wegner’s agricultural experience that earned him this award and opportunity involved documenting years of work on his family

farm near Wells, Minn.

“Today he is the fifth generation to work on his family’s farm and that is something really incredible,” President Trump said as he acknowledged Wegner. Wegner graduated with an agronomy degree from SDSU in May 2018.

Starting this project as a freshman in high school, Wegner recorded every hour he worked on the farm until his senior year at SDSU. He says FFA set him on the right track for his career pathway. Working on his family farm, he developed an interest in crop production, plant processes and how to grow a successful crop.

“I chose the agronomy major because nobody else in our operation had that degree,” Wegner says. “It was my way of developing my own little niche in our operation.”

Wegner Farms has several different sectors within their agribusiness, including: harvesting corn and soybeans in the fall, baling ditch hay in the summer, selling seed, trucking, custom baling and spraying for area growers.

“To be a finalist in my category was one of the goals I set and being able to win the award was pretty crazy,” Wegner says. More than just a project, Wegner’s labor documentation serves as a symbol of his devotion and commitment to his family farm.

“These records show growth throughout the years,” Wegner says. “Things that have led to new successes on our farm, showing my role in the operation going from a laborer to a respected employee and being a part of all the decision-making that happens on our farm.”

Whether he’s out in the field or developing herbicide plans, Wegner says he uses the accumulation of knowledge he obtained from his three years at SDSU every day.

“With the agronomy degree, I learned a good amount about everything from weeds, crop production, crop improvement and ag marketing.”

As the fifth generation of his family’s operation, working on the farm is something he’s really passionate about and proud of.

“It’s really the best of both worlds,” Wegner says.

*Sharon Tritz*

## RESOURCES, TOOLS & SUPPORT PROVIDED DURING SDSU EXTENSION FARM STRESS WORKSHOPS

Over time, the impacts of low markets and extreme weather can take a toll on South Dakota's farmers, ranchers and those who care about them.

"Staff began to share tough stories of how these chronic stressors were impacting agriculture producers. Stress of hearing these stories, but not knowing what to do was impacting our team. We knew we needed to do something," explained Suzanne Stluka, SDSU Extension Food & Families Program Director.

In response, SDSU Extension hosted workshops across the state to provide agriculture producers, their family, friends and those who serve them, with the knowledge to recognize and respond to signs of chronic stress, which can result in changes in emotions and behavior.

Uniquely designed, SDSU Extension hosted two separate workshops: one focused on agriculture producers and their families, the other designed for agri-business and service providers.

Led by SDSU Extension staff who received national Mental Health First Aid training, the workshops focused on stress management strategies as well as support strategies when dealing with the impacts of chronic stress or working with those

suffering from chronic stress. The first set of workshops were held on April 15, 2019 in Aberdeen, Sioux Falls, Pierre and Rapid City. More workshops were held on May 23, 2019 at SDSU Extension Regional Centers in Lemmon, Mitchell, Watertown and Winner.

"I don't think anxiety or depression is something people readily discuss. It's easier to talk about concerns over the weather or markets – but these factors, which our farmers and ranchers cannot control - can have a lasting and unhealthy impact on them and their families," says Krista Ehlert, Assistant Professor & SDSU Extension Range Specialist, whose position is based in the Natural Resource Management Department within the College of Agriculture, Food & Environmental Sciences.

Ehlert was among the team of SDSU Extension staff leading the workshops.

She and the other workshop presenters traveled to Michigan State University to participate in Mental Health First Aid training, to be trained to lead farm stress workshops. They joined more than 100 extension personnel from 20 land grant institutions across the nation.

"The economic and extreme weather

challenges, and the impact the resulting chronic stress has on farmers, ranchers and those who care about them, is not isolated to South Dakota. It is nationwide," Ehlert says.

In addition to understanding the warning signs of chronic stress, the workshops provide some stress management techniques, emphasize the importance of self-care and encourage producers to reach out for support from family, friends or professionals.

"Everyone has stress. You often don't know what people are going through. Being aware of symptoms and how to communicate more effectively with people experiencing extreme stress makes a difference because you feel like you can help," Ehlert says.

Attendee feedback from the workshops emphasized the value in discussing the topic, Stluka added. "As we talked with participants, and from surveys, they kept saying they were glad we brought them together to talk about this. We need to make sure our farmers and ranchers understand they are not alone."



## Signs you or a loved one needs mental health support

So, how do you know if someone you know, or love is battling anxiety or depression? Andrea Bjornestad, Assistant Professor & SDSU Extension Mental Health Specialist shares some symptoms to watch for among family and friends:

- Depression, hopelessness
- Withdrawal from people or activities they ordinarily enjoy
- Negative thoughts, including frequent talk about disappearing or death
- Strong feelings of guilt or low self-esteem
- Decline in hygiene or appearance
- Alcohol or substance misuse
- Stockpiling medication
- Easy access to firearms

If you see the above symptoms or assume someone is struggling, don't hesitate to get involved. "If someone is struggling with emotions such as sadness, anger, or irritability, socially withdrawing from others, or changing their behavior, don't hesitate to talk to them," Bjornestad said. "Don't be afraid to ask the tough questions. You asking will not impact a person's response or thoughts."

How to begin the conversation? Bjornestad suggests talking to the person alone and in a private location.

"It is important to describe any changes you've observed in the person and to let them know that you care about them," Bjornestad says. "After describing changes, you may need to ask tough questions directly including, 'Have you had any recent thoughts of death and dying?' or, 'Are you experiencing thoughts of suicide?'"

If the answer is yes, the following resources are important:

Help the person get immediate mental health assistance. Offer options such as the Helpline (dial 211) or Farmers Stress Hotline 800-691-4336; call a family member to come help and potentially take the person to the hospital; call a local mental health crisis team; call for emergency medical services. Do not leave the person alone.

For more information, contact Bjornestad at 605-688-5125 or [andrea.bjornestad@sdstate.edu](mailto:andrea.bjornestad@sdstate.edu) or call the Avera Farmer's Stress Hotline 800-691-4336 at [Avera.org/FarmerStress](http://Avera.org/FarmerStress).

*Lura Roti*



# Students' Association

## THE INSIDE SCOOP

**Pictured left to right:** 2018-2019 College of Agriculture, Food and Environmental Sciences Senators Megan Kellen and Corey Berscheit.

**S**outh Dakota State University Students' Association (SA) is a student government organization which advocates for students and aims to positively impact the SDSU community. SA is composed of 26 senators and six executive team members. Student senators represent the colleges in which their major falls and at-large senators represent the entire student body. Weekly meetings are held each Monday night throughout the duration of the school year.

During the 2018-2019 school year, the College of Agriculture, Food and Environmental Sciences was represented by Corey Berscheit and Megan Kellen, both serving in their first term.

Berscheit will be a senior animal science and agricultural science student with minors in agricultural business and agricultural marketing from Becker, Minn. Outside of his senate duties, Berscheit serves as an Admissions Ambassador and is a member of Barnyard Cadets, Habitat

for Humanity and Little International.

Kellen will be a senior animal science student with minors in animal health and chemistry from Le Mars, Iowa. Besides serving as a senator, Kellen also serves as an Admissions Ambassador and is actively involved at Pius XII Newman Center. Additionally, she is a member of the Pre-Veterinary Medicine Club and State A Thon.

In the recent election for the 2019-2020 school year, Kellen was re-elected for a second term as a senator and will serve alongside her fellow CAFES senators Jennifer Tonak, Anthony Shimon and Mary Dybedahl. Berscheit was elected as Vice President of Students' Association serving alongside President Ally Monson who will be serving in her second term.

You might be wondering what exactly our senators do. We talked with them and they gave us the inside scoop.

### **Q: Why did you want to become a senator?**

**Kellen:** I wanted to become a senator because there are policies and practices in place around campus that I wanted to learn more about as well as change. I had experience with student government in high school and enjoyed being a part of something bigger than myself. After being on campus for two years, I decided to run for senate and see what changes I could be a part of. I decided to run as a senator for CAFES because I enjoy learning about what the students in my college would like to see happen on our campus. While I had conversations about change on our campus prior to being a senator, being a senator has given me a platform to advocate for my constituents.

**Berscheit:** Becoming a senator initially interested me because although the College of Agriculture, Food and



Environmental Sciences comprises a large majority of the university, at times I saw a deficiency in presence beyond a stereotype. My constituents have incredibly diverse viewpoints and proposals for continual improvement, however I did not always see action. Although some ideas may be far-fetched, there was a stimulus behind every idea that can be further investigated and dissected to ultimately accomplish a similar goal. Additionally, this deficiency can lead to a communication gap between CAFES students' actual views and what the views are presumed to be. Besides increasing and ensuring transparency, action items I wanted to focus on were addressing concerns regarding parking and increasing opportunities for student exposure, education and engagement with agriculture.

**Q: What are your main duties as a senator?**

Kellen: Our main duties as senators include the weekly Students' Association meetings, serving on various committees around campus as the student voice and communicating with our constituents. Often, we are the only student voices on these committees. This gives us a unique opportunity to learn about the future of our campus and advocate for how these changes may affect students.

**Q: Have you served on any specific committees? If so, what was your role and what did the committee focus on?**

Berscheit: Last summer I happened to be around Brookings and was asked to serve on the Wellness Center Planning Committee. Serving on this committee was very rewarding, as I got to see all the hard work that was put into the designing, planning and construction of the addition to the existing facility. My fellow committee members and I assisted in picking out the decals that are featured on the new Wellness Center equipment and graphics throughout the facility. I also served on the Parking and Traffic Committee, where we dealt with second-level appeals and conversed about new

implementation plans, as well as addressed and attempted to resolve current issues faced with parking and traffic. Recently, our conversations have discussed the possibility of further representation on other appropriate committees. Additionally, I served on the Academic Affairs Committee, Finance Committee, Tailgating Committee, Intercollegiate Athletic Board, Government Affairs Committee, F.O. Butler Award Selection Committee, and the General Activity Fee Steering Committee.

Kellen: I served on the Safety and Security Committee, Student Success Committee, General Activity Fee Strategic Plan Workgroup, and Campus Planning and Design Committee. The Safety and Security Committee was made up entirely of senators and our goal was to address any areas of concern for students' safety. At the beginning of the semester, we looked at the lighting around campus to determine if we needed to recommend any additional lights. As a student representative for the Student Success Committee, I was able to advocate for students' participation in various academic programs.

**Q: What do you hope to accomplish/what have you accomplished for the College of Agriculture, Food and Environmental Sciences during your term?**

Berscheit: One major item I would like to work on is increasing opportunities for agricultural interaction with all SDSU students. Many interactions I have with non-CAFES students is that they have no idea where their food comes from or know very little about agriculture in general. Beside current clubs and organizations such as Little International, I would like to pursue new opportunities by increasing exposure and education. I also advocate for new classes and majors for students within CAFES to expand our own learning. I've met with Dean Killefer to talk about what students are conversing about in many capacities such as questions, concerns and what excites them. Among my constituents, a large portion of their concerns have included parking issues. I

served on the Parking and Traffic Committee and we worked hard to change the negative feelings toward parking on campus.

Kellen: My goal is to look into the options for stocking vending machines around campus, especially the buildings in the northwest quadrant of campus. Personally, I have had situations where it would have been helpful to have more nutritional and sustaining options in the vending machines when students don't have time to go to the Union or other dining locations between classes. Serving on the Safety and Security Committee has given me an opportunity to look into the opportunities to promote the use of the Guardian app on our campus as well.

For the "inside scoop" on all Students' Association news and updates, follow SDSU Students' Association on Facebook.

*Andrea Schubloom*





Since the early 90s, the ambassador organization for South Dakota State University's agriculture programs has been a place for passionate students to grow personally while making an impact for SDSU. For Kylee Kohls, the commitment runs much deeper than that.

Both Kylee's parents were on the initial College of Agriculture and Biological Sciences (now College of Agriculture, Food and Environmental Sciences) Ambassador team during their college career. Daniel and Teresa Kohls graduated from SDSU in 1994.

Now called the CAFES Ambassadors, the group travels across South Dakota and neighboring states to high school classrooms and other events to recruit students for the College of Agriculture, Food and Environmental Sciences. Students are invited to apply every spring and go through an interview process to join the program.

## FAMILY TIES RUN DEEP IN COLLEGE AMBASSADOR PROGRAM

According to Daniel and Teresa, their duties as ambassadors were much like those of the current team. They recall going on high school visits and meeting as a group, but said the impact of the ambassadors reaches much further now than when they were members.

"They're definitely engaged in a lot more on- and off-campus activities, like going to National FFA Convention and recruiting for the college in other ways, but then still doing the high school recruitment which is where it starts," Daniel said.

In the first years of the ambassador program there were about 12 members. Now, the group has grown to 25 students. According to the program's advisor, Brad Blaha, a larger team allows them to reach more potential SDSU students and assist with other on- and off-campus events.

"The students do about 120 events per year," he said. "So it allows us to be a lot of places that if it was just one person to represent the college, it would be hard for them to be at many of those things."

While Daniel and Teresa said they never pressured their daughter to join the CAFES Ambassadors, Kylee thought it was a "natural fit" for her to get involved with the group.

"In my eyes, I'm continuing a legacy," she said. "Not everyone can say they had the opportunity to be involved in the same organizations as their parents."

Despite the differences between past and present, Daniel and Teresa agree that the students are still as dedicated and passionate as when the group began. The original ambassador team included notable alumni like SDSU Animal Science Professor Cody Wright and agricultural journalist Michelle Rook.

"We were probably all focus-driven kids that wanted to make a difference and I think that still holds true to the quality of kids that want to serve in that capacity," Teresa said.

As for Kylee, who served as a Minnesota State FFA Officer last year, the CAFES Ambassadors allows her to continue speaking to high school students and FFA members who are excited about a future in the agriculture industry.

"I love reaching out to others considering SDSU and assuring them they have a place to pursue their passion," she said.

*Katie Berndt*

**Below Left:** The 2018-2019 CAFES ambassador team. Kohls is pictured second from the right in the third row.

**Below Right:** The original ambassador team in 1992. Daniel Kohls is kneeling at left. Teresa (Karg) Kohls is 4th from left on top.



# DEPARTMENTS AND FIELDS OF STUDY

## AGRICULTURAL & BIOSYSTEMS ENGINEERING

- Agricultural and Biosystems Engineering
- Agricultural Systems Technology
- Precision Agriculture
- Precision Agriculture (minor)

## AGRICULTURAL EDUCATION, COMMUNICATION & LEADERSHIP

- Education Specialization
- Communication Specialization
- Leadership Specialization
- Leadership (minor)

## AGRICULTURAL SCIENCE

- Agricultural Science (B.S.)
- Agricultural Science (A.S.)

## AGRONOMY, HORTICULTURE & PLANT SCIENCE

- Agronomy
- Horticulture
- Precision Agriculture
- Agronomy (minor)
- Horticulture (minor)
- Pest Management (minor)
- Precision Agriculture (minor)
- Soil Sciences (minor)
- Sustainable Local Foods (minor)

## ANIMAL SCIENCE

- Animal Science
  - Industry Specialization
  - Science Specialization
- Animal Science (minor)
- Equine Studies (minor)
- Meat Science (minor)
- Ranch Management (minor)
- Swine Science Certificate

## DAIRY & FOOD SCIENCE

- Dairy Manufacturing
  - Microbiology Specialization
- Dairy Production
- Food Science
- Food Safety (minor)

## AGRICULTURAL BUSINESS & ECONOMICS

- Agricultural & Resource Economics Specialization
- Agricultural Business
- Agricultural Business (minor)
- Agriculture & Environmental Law Certificate
- Agricultural Marketing (minor)
- Land Valuation & Rural Real Estate (minor)

## NATURAL RESOURCE MANAGEMENT

- Conservation Planning & Park Management
  - Park Administration & Management Specialization
- Ecology & Environmental Science
  - Rangeland Ecology & Management Specialization
- Natural Resource Law Enforcement
- Wildlife & Fisheries Sciences
- Botany (minor)
- Rangeland Ecology & Management (minor)

## VETERINARY AND BIOMEDICAL SCIENCES

- Animal Health (minor)
- Pre-Veterinary Medicine (non-degree)

## MULTIDISCIPLINARY

- Bioprocessing Sciences Certificate
- Bioprocessing Sciences (minor)



# Welcome NEW FACULTY



**KRISTA EHLERT**  
**Assistant Professor**  
*Natural Resource Management  
Department*  
SDSU Extension Range Specialist  
- West River Ag Center



**CARMEN PAULSON**  
**Instructor**  
*Animal Science Department*  
Courses teach:  
- Western Horsemanship  
- Intro to Horse Management  
- Stable Management  
- Current Issues - Equine Focus  
- Horse Production  
- Equine Training 1  
- Equine Health & Disease



**ROBERT LONSINGER**  
**Assistant Professor**  
*Natural Resource Management  
Department*  
Courses teach:  
- Principles of Wildlife  
Management  
- Mammology  
- Intro Wildlife & Fisheries  
Management



**ISAAC SALFER**  
**Assistant Professor**  
*Dairy & Food Science Department*  
Courses teach:  
- Dairy Farm Operations I and II  
- Ruminology  
- Dairy Cattle Judging  
- Dairy Challenge  
- Animal Nutrition



**DON MCCREA**  
**Instructor**  
*Natural Resource Management  
Department*  
Courses teach:  
- Wildlife Law Enforcement  
- Special Topics  
- Human Dimensions  
- Laws & Policies in NRM  
- NRM Lab

# SHOWCASING OUR POINTS OF PRIDE

We were proud to share some of our points of pride on campus with Deputy Secretary of Agriculture for the USDA Stephen Censky, South Dakota Secretary of Agriculture Kim Vanneman and U.S. Representative for South Dakota Dusty Johnson.



**Pictured from left:** Paul Shubeck, State Executive Director for the USDA South Dakota Farm Service Agency; Jeff Zimprich, South Dakota Natural Resources Conservation Service State Conservationist; John Killefer, South Dakota Corn Endowed Dean of the SDSU College of Agriculture, Food and Environmental Sciences; Julie Gross, State Director of the USDA Rural Development in South Dakota; Stephen Censky, Deputy Secretary of Agriculture for the USDA.



**Pictured from left:** Vikram Mistry, David A. Thompson Endowed Head of the SDSU Dairy and Food Science Department; Angela Loftesness, Assistant to the Dean of the College of Agriculture, Food and Environmental Sciences (CAFES); Donald Marshall, Associate Dean for Academic Program of CAFES; Kim Vanneman, South Dakota Secretary of Agriculture; John Killefer, South Dakota Corn Endowed Dean of CAFES.



**Pictured from left:** Barry H. Dunn, SDSU President; Dusty Johnson, U.S. Representative for South Dakota; Bob Thaler, SDSU Extension Swine Specialist and Professor; John Killefer, South Dakota Corn Endowed Dean of CAFES.



**Left (from left):** Cole Jackson of Sanborn, Minn. was reserve round robin champion; Nathan Linke of Woonsocket was named the high point freshman; Maggie Post of Lakefield, Minn., received high point upperclassman; Jeremiah Johnson of Huron was round robin champion.

**Below:** Jaclynn Knutson of Viborg won experienced sheep fitting.



## STUDENTS PARTICIPATE IN CAREER DEVELOPMENT EVENTS AND LIVESTOCK SHOWS AT 96TH LITTLE INTERNATIONAL

Nearly 2,000 FFA and 4-H students and over 175 SDSU students participated in South Dakota State University's 96th Little International held on March 29-30, 2019. The largest student-run livestock exposition in the country is run by a staff of 150 students overseen by student manager Tristin Fliehe of Tulare and assistant manager Colin VanderWal of Volga.

"The weekend is filled with so much excitement and energy as students get to showcase the hard work they have put in for the last few weeks and many alumni fill the Animal Science Arena to take part in this time-honored tradition," Fliehe said.

On Friday, FFA and 4-H members, as well as SDSU students, competed in 18 career development events and judging contests ranging from livestock judging and farm business management to floriculture, veterinary science, dairy

products judging and more, put on by Little International staff. The veterinary science competition was a new addition this year.

Since 1939, Little International has selected an honored agriculturalist to recognize at the event. This year, David Stenberg of Colman was honored for his many contributions to the cattle industry and South Dakota. Stenberg raises and sells purebred Hereford bulls, steers and heifer prospects with his grandson. He served as president and board member for the South Dakota Hereford Association, was recognized by the South Dakota Cattlemen's Association as Cattleman of the Year in 1999, was named an Eminent Farmer by SDSU in 2007 and served in the South Dakota House of Representatives.

Beginning Friday afternoon and going through Saturday evening, over 175 SDSU students competed as experienced and

novice showmen in showmanship and fitting contests across six different species including beef and dairy cattle, sheep, goats, swine and horses.

"This event delivers on our college mission of hands-on learning," said John Killefer, South Dakota Corn Endowed Dean of the College of Agriculture, Food and Environmental Sciences. "I am very proud of the Little International staff and participants."

Nathan Linke of Woonsocket was named the high point freshman and Maggie Post of Lakefield, Minn., received high point upperclassman. Round robin champion was Jeremiah Johnson of Huron and reserve champion was Cole Jackson of Sanborn, Minn.

*Sydney Meyer*

## LITTLE INTERNATIONAL NAMED 2019 CLUB OF THE YEAR

Little International was named the 2019 College of Agriculture, Food and Environmental Sciences Club of the Year for its outstanding accomplishments and campus involvement.

Every year, clubs in the college are encouraged to submit applications for the Club of the Year award. Those applications, accompanied by points earned throughout the year for club involvement in various CAFES events, are judged to determine the winner.

With over 150 students from a number of different majors, Little International offers students the opportunity to network among themselves as well as with industry professionals. Every year club members organize the largest two-day student-run livestock show in the nation. Over 175 South Dakota State University students

compete as novice and experienced showmen in showmanship and fitting contests across six different species including sheep, goats, swine, beef cattle, dairy cattle and horses.

The Little International staff also puts on an FFA Career Development Event for high school students. Close to 2,000 high school students are welcomed to campus to participate in 18 contests ranging from floriculture to dairy foods judging, agronomy judging, vet science and more. SDSU students compete in the same contests.

"I am very impressed with the enthusiasm and engagement by the more than 150 students that continue a tradition of this caliber that is recognized across the nation," said John Killefer, South Dakota Corn Utilization Council Endowed Dean

of the College of Agriculture, Food and Environmental Sciences.

The 2019 Little International Manager was Tristin Fliehe, senior agricultural business major from Tulare, S.D. The assistant manager was Collin VanderWal, junior animal science major from Volga, S.D.

Little International is advised by Keith Underwood, associate professor in the Department of Animal Science, and Lora Berg, director of marketing and communications for the College of Agriculture, Food and Environmental Sciences.

*Nicole Hudson*

## TRAILER DONATED TO SWINE EDUCATION & RESEARCH FACILITY



The College of Agriculture, Food and Environmental Sciences wishes to thank the South Dakota Pork Producers Council, First Dakota National Bank and Wilson Trailer for generously donating a trailer to the SDSU Swine Education and Research Facility.



## ROSIE NOLD AND BRAD BLAHA RECEIVE ACADEMIC ADVISING AWARD

to complete their degrees, but also give professional advice.”

The Walt McCarty Excellence in Academic Advising Award was established by alumnus David Anderson as a tribute to his former academic advisor, J. Walters McCarty. McCarty was a professor of

Animal and Range Sciences at SDSU from 1948 to 1986. Anderson established this award to recognize and promote excellence in academic advising in the college.

Nold is an academic advisor in the Animal Science Department, as well as assistant department head and associate professor. Nold advises around 40 animal science students during the school year and works closely with the department’s professional advisor. In the summer, she

advises incoming and transfer students at New Student Orientation. Additionally, Nold is the curriculum coordinator for the department. She also teaches the introductory course for all animal science students.

Blaha is the coordinator of recruitment and academic services for the college. He is an academic advisor for about 100 students. In the summer, he also advises incoming and transfer students at New Student Orientation. Additionally, Blaha serves as the advisor for the CAFES ambassadors, a group of over 20 students who visit high school classrooms and attend events to recruit high school students to SDSU. He also advises the Alpha Gamma Rho Fraternity.

*Sydney Meyer*

**R**osie Nold and Brad Blaha are recognized for being outstanding advisors in the College of Agriculture, Food and Environmental Sciences as recipients of the 2018 Walt McCarty Excellence in Academic Advising Award.

“Both of these individuals are service-oriented and strong advocates for student success,” said Don Marshall, associate dean and director of academic programs for CAFES. “They are excellent mentors and not only help students choose courses

## BRETT OWENS RECEIVES 2019 TEACHER OF THE YEAR

**E**very year students in the College of Agriculture, Food and Environmental Sciences nominate professors, advisors and mentors who they feel go above and beyond and are dedicated to the success of their students. The nominees are judged by a panel of student representatives from the Student Association Senators and CAFES Prexy Council Officers.

Brett Owens was chosen as the 2019 College of Agriculture, Food and Environmental Sciences Teacher of the Year. Owens is an instructor of horticulture in the Department of Agronomy, Horticulture and Plant Science. In addition to being a dedicated teacher and mentor, Owens serves as the director of the Local Foods Education Center and as the advisor to the Horticulture and Urban Ag Club.

Owens is a huge proponent of fighting local food insecurity. Owens finds it important that locally grown foods are kept local. Owens is currently working with SDSU students to build an inexpensive greenhouse system to produce food year-round in areas of South Dakota that are facing food insecurity. He also helped start the Bee Great Garden Club in partnership with the Brookings Boys and Girls Club in an effort to educate youth in the Brookings community. This project encourages his students to volunteer their time with youth in the community.

“Brett Owens stands out in many ways as an engaged educator and an outstanding



community member,” said McKinley Lain, SDSU student, “Time spent with Brett inside and outside the classroom is thoughtful, productive, and meaningful.”

*Nicole Hudson*





## SOUTH DAKOTA STATE RODEO TEAM SEES CONTINUED SUCCESS AT COLLEGE NATIONAL FINALS RODEO

SDSU Rodeo Team CNFR qualifiers from left to right: (back) Paden Sexton, Scott Halverson, Reed Arneson, Nolan Richie (front) Tori Jacobs, Hannah Sauve, Allison Pauley, Madison Rau, and Coach Ron Skovly.



Madison Rau competing in barrel racing at the CNFR.

For the past 20 years, the South Dakota State University Rodeo Team has had at least one student athlete finish in the top 12 at the College National Finals Rodeo (CNFR). At the 2019 CNFR, which was held June 9-15 in Casper, Wyoming, SDSU kept its long-standing tradition alive with yet another top 12 finish by Madison Rau in barrel racing.

Alongside Rau, who is a junior agricultural business major from Mobridge, S.D., were seven other members who qualified for the CNFR. Reed Arneson, a junior animal science major from Meadow, S.D., and Paden Sexton, a junior political science major from Bison, S.D., competed in saddle bronc riding. Scott Halverson, a sophomore animal science major from Fairview, S.D., and

Nolan Richie, a senior agricultural business major from Bristol, S.D., competed in team roping. Hannah Sauve, a sophomore animal science major from Osage, Iowa, and Allison Pauley, a freshman biochemistry major from Honey Creek, Iowa, competed in barrel racing. Tori Jacobs, a sophomore interior design major from Madrid, Iowa, competed in goat tying.

Rau, who was making her third appearance at the CNFR, placed 11th in barrel racing, while Pauley and Sauve finished 21st and 26th, respectively. Halverson placed 13th in team roping and Jacobs placed 21st in goat tying.

With over 20 years of top 12 finishes at the CNFR, SDState has become a reputable and well-known program both

regionally and nationally. Ron Skovly began his coaching career in 2009 and has coached 95 CNFR qualifiers.

“Our talent pool is diverse because of our success,” Skovly said. “Having a solid reputation really helps with recruitment.

“We have a strong recruiting class coming in the fall and I’m very excited for next year,” said Skovly, who expects the team to reach nearly 50 members for the 2019-20 academic year.

SDSU opens the fall rodeo season Sept. 6-7 in River Falls, Wisconsin.

*Nicole Hudson*

## ENDOWMENTS MAKE A *Difference*



David A. Thompson (left) with the David A. Thompson Endowed Department Chair of Dairy and Food Science, Vikram Mistry.

An investiture ceremony held in April celebrated the David A. Thompson Endowed Department Chair of Dairy and Food Science, established by a \$2 million gift from David A. and Marilyn Thompson.

Vikram Mistry, who has been a Dairy Science faculty member at SDSU since 1986, and professor and department head since 2002, is the first holder of the chair.

"David Thompson's support will have a lasting impact on the lives of students and will help shape the dairy and food industry of the future," said Mistry.

In addition to having an immediate impact on the department, the generous endowment will be used to both recruit and support those who serve in the Dairy and Food Science Department Head position in the future. The person holding this endowed chair will provide leadership to elevate all aspects of the land grant university mission, which includes education, research and extension, within the department.

Celebrated as the nation's top dairy

science program, SDSU is one of only two in the country to provide undergraduate and graduate students with education and research opportunities in dairy production and dairy manufacturing. In 2015, the department added a food science major for undergraduate and graduate studies.

Thompson is a dairy manufacturing graduate from SDSU. As a student, he worked at the SDSU dairy plant, eventually becoming its student manager. Today, the Distinguished Alumnus and former president of Abbott Laboratories Diagnostic Division credits the education and research experience he gained at SDSU with launching his career.

"I'm privileged and excited to be able to give back and help the department to continue to improve by attracting the best people to run the department. I'm especially pleased that Dr. Mistry is the first to receive this honor as he has made many important positive changes to the department and is a great influence on his students," Thompson said.

## SOUTH DAKOTA CORN ENDOWED DEAN

Dr. John Killefer was recognized as the South Dakota Corn Endowed Dean of the College of Agriculture, Food and Environmental Sciences at the South Dakota Corn Growers 33rd Annual Meeting in Sioux Falls on January 19, 2019.

South Dakota Corn has a long track record of investing in projects, positions and initiatives at South Dakota State University that align with their mission and provide value to their members. The organization created a \$2 million endowment to support the dean's chair for the College of Agriculture, Food and Environmental Sciences (formerly College of Agriculture and Biological Sciences) when current SDSU President Barry H. Dunn was hired to fill the Dean position in 2010. Pledging to continue the organization's strong support, South Dakota Corn Utilization Council President Ryan Wagner presented Dean Killefer with the South Dakota Corn Endowed Chair medallion during the 2019 meeting.



From left: SDSU President Barry H. Dunn, South Dakota Corn Endowed Dean of the College of Agriculture, Food and Environmental Sciences John Killefer, former South Dakota Corn Utilization Council President Ryan Wagner, and SDSU Provost Dennis Hedge.

## REGRETS, I'VE HAD A FEW...

I am always surprised when I watch an interview where the person is asked “Do you have any regrets?” and the answer is “No...no regrets”. I wish I felt that way, but I don't. The older I get, the more I seem to have.

There is a central theme to most of my regrets; they tend to be centered around the times I didn't take time to tell people how much I appreciate them, to make them feel special, or to simply say “thank you”. Certainly I have done some of this in my life, but not nearly enough. So many missed opportunities.

My job involves asking people to make a difference at SDSU by providing financial support. It takes a special person to allow someone to come into their home knowing that the conversation will include the phrase “will you help”. Yet, family after family has done just that, often offering a cup of coffee or a piece a pie as if I were an old friend or a neighbor.

I've learned so much from you along the way. I've learned the importance of mentorship by watching a man in his 70s tear up when he talked about the role his livestock judging coach played in his life. I've learned about the importance of legacy when a lovely woman, who had been diagnosed with a terminal condition the day before, sat across the table from me making plans to gift her family farm to SDSU. I've learned selflessness when I left an appointment in Colorado knowing I would never see a donor again because of her medical situation. She had a limited number of hours left on this earth, yet she and her husband shared two of those hours with me. She was gone a few months later.

So regrets...I've had a few. To each of you who have so graciously welcomed me into your homes and allowed me to learn from

you, please know this - I appreciate you. You are incredibly special to me. Thank you.



Mike Barber '97



Because of scholarships, doors opened for me at SDSU 45 years ago. Today, we reaffirm our land-grant mission: equal access to public higher education. We must offset rising college costs and

**BUILD OPPORTUNITIES FOR STUDENTS.**

- SDSU President Barry H. Dunn

## OUR STUDENTS HAVE BOLD DREAMS AND AMBITIONS FOR THEIR FUTURE.

For many, the opportunity to attend SDSU is only possible through scholarship support. Our land-grant mission centers on ensuring students' access to education — and ultimately their dreams — regardless of their circumstances.

### Scholarships help make college affordable.

#### Your gift could:

- Encourage a student to choose or continue their education at SDSU;
- Minimize the financial burden to allow a current student to focus more intently on their studies;
- Enable a new graduate to enter the workforce with less student debt;
- Be the answer to a family's dream -- one that makes it possible for their first-generation college student to become a Jackrabbit.



IMPACT *Greatness*

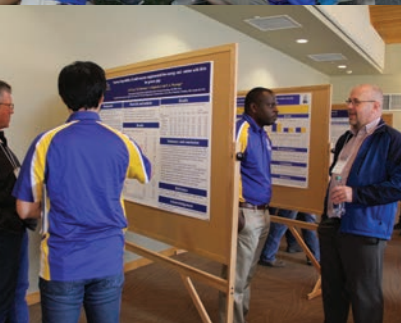
For more information or to make a contribution, please contact the SDSU Foundation:

Mike Barber, Development Director  
Toll-Free: (888) 747-SDSU  
[www.SDStateFoundation.org](http://www.SDStateFoundation.org)



**SOUTH DAKOTA STATE UNIVERSITY**  
*College of Agriculture, Food and Environmental Sciences*

## 2019 Fall Schedule of Events



### Football Schedule

#### Dairy Drive

Saturday, September 7 | 6 p.m.

#### Beef Bowl

Saturday, September 21 | 6 p.m.

#### Hobo Day

Saturday, October 5 | 2 p.m.

#### Precision Agriculture Bowl

Saturday, November 16 | 2 p.m.

### College Events

#### First Day of Classes

Monday, August 26

#### South Dakota Animal Disease Research & Diagnostic Laboratory Grand Opening

Friday, September 6 | 4:30 p.m. to 6:30 p.m.

#### Eminent Leader in Agriculture, Family and Community Banquet

Friday, September 20, 2019 | 5:30 p.m.

#### Animal Science Scholarship Banquet

Monday, September 23 | 6:00 p.m.

#### CAFES Career Fair

Wednesday, October 2 | 1 p.m. to 5 p.m.

#### Agricultural and Biosystems Engineering Banquet of Excellence

Thursday, October 10 | 6 p.m. to 8 p.m.

#### Agronomy, Horticulture, and Plant Science Scholarship Brunch

Saturday, October 19 | 10 a.m. to 12 p.m.

#### CAFES Scholarship Banquet

Wednesday, October 23 | 6 p.m. to 8 p.m.

#### SDSU Swine Day

Tuesday, November 5 | 9 a.m.

For more information visit: [sdstate.edu/cafes](http://sdstate.edu/cafes)